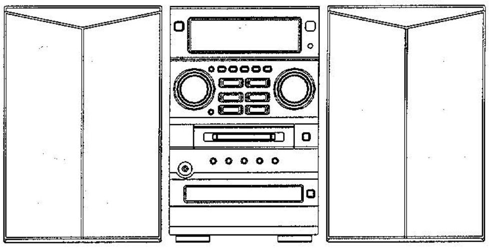
aiwa

aiwa SERVICE

XR-MD85



MD/CD STEREO SYSTEM

- BASIC TAPE MECHANISM: 2ZM-1 P6
- BASIC CD MECHANISM: 3ZG-3 E1
- BASIC MD MECHANISM: 7ZG-9 A

- TYPE: EZ,LH

SERVICE MANUAL

S/M Code No. 09-987-286-30T

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SPECIFICATIONS

MAIN UNIT CX-LMD85

LH MODEL

FM tuner section

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

AM tuner section

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

EZ MODEL

FM tuner section

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

MW tuner section

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

LWtuner section

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 µV/m
Antenna	Loop antenna

Amplifier section

LH MODEL

Power output	30 W + 30 W (6 ohms, T.H.D. 10%, 1 kHz)
Inputs	VIDEO/AUX: 400 mV
Outputs	SUPER WOOFER: 1.4 V SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo minijack): accepts headphones of 16 ohms or more

EZ MODEL

Power output	Rated: 25 + 25 W (6 ohms, T.H.D. 1%, 1 kHz/DIN 45500) Reference: 30 + 30 W (6 ohms, T.H.D. 10%, 1 kHz/DIN 45324)
Inputs	VIDEO/AUX: 400 mV
Outputs	SUPER WOOFER: 1.4 V SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo minijack): accepts headphones of 16 ohms or more

Cassette deck section

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz – 15000 Hz
Signal-to-noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck: Recording/playback/ erase head × 1

Compact disc player section

Laser	Semiconductor laser (λ = 780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

MD recorder section

Scanning method	Non-contact optical scanner (Semiconductor laser application)
Recording system	Magnetic polarity modulation overwrite system
Rotation speed	Aprox. 400 - 900 rpm (CLV)
Sampling frequency	44.1 kHz
No. of channels	Stereo: 2 channels Monaural: 1 channel
A-D, D-A converter	1-bit
Frequency	20 – 20000 Hz +0.2 – -1.5 dB
Wow and flutter	Unmeasurable

SPEAKER SYSTEM SX-LM85

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 130 mm cone type Tweeter: LH: 60 mm cone type EZ: 30 mm cone type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W × H × D)	175 × 275 × 250 mm
Weight	2.8 kg

General

Power requirements	LH: 120/220 - 240 V AC, switchable 50/60 Hz EZ: 230 V AC, 50 Hz
Power consumption	70 W
Dimensions (W × H × D)	175 × 275 × 323.5 mm
Weight	5.9 kg

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound,Inc.
  Under license from BBE Sound,Inc.

ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

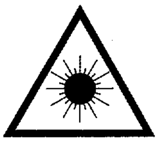
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	88-CL2-902-010		IB,LH(ESP)H<LH>
1	88-CL2-906-010		IB,E(ESFDGI)H<EZ>
2	87-043-106-010		WIRE, FM ANT (Z)<EZ>
2	87-043-115-010		ANT,FEEDER FM<LH>
3	87-A90-030-010		ANT,LOOP AM-NC C
4	88-CL2-859-010		BOX,ACCESS NC
5	88-CL2-985-010		SPKR ASSY,SX-MD85 6OHM
6	88-CL4-951-010		RC UNIT,RC-8AT02
⚠ 7	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<LH>

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

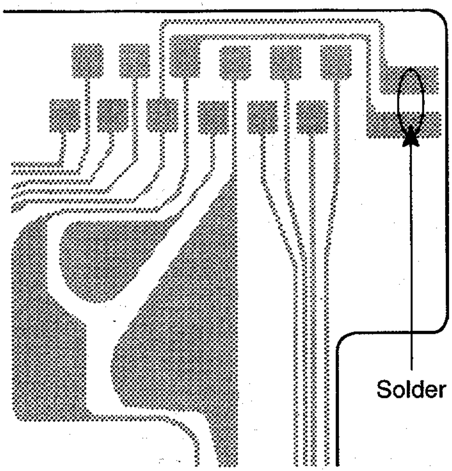
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block (KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

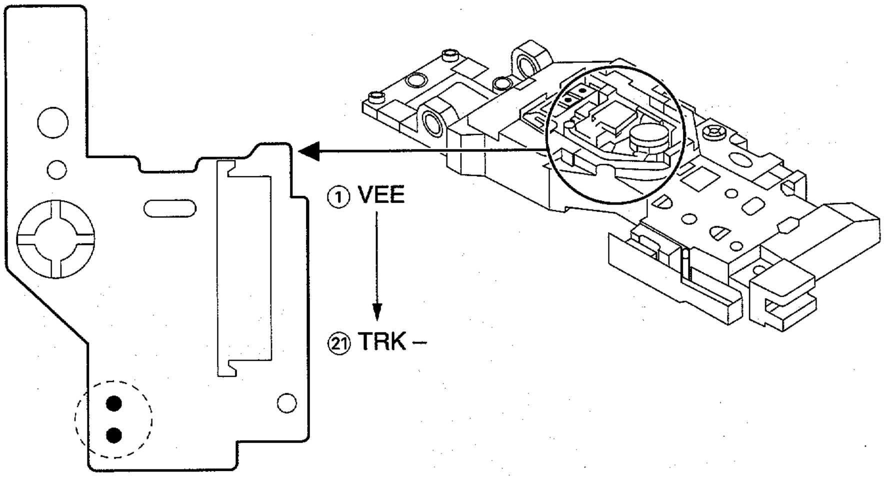
PICK-UP Assy P.C.B



Precaution to replace Optical block (KMS-260A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.



DISASSEMBLY INSTRUCTIONS

1. Remove the four screws Ⓐ (S-SCREW, MD) and screws Ⓑ (BVTT +3-6).
   Remove the four FFCs from the connector, and remove the MD MECHANISM in the direction of the arrow. (Fig-1)

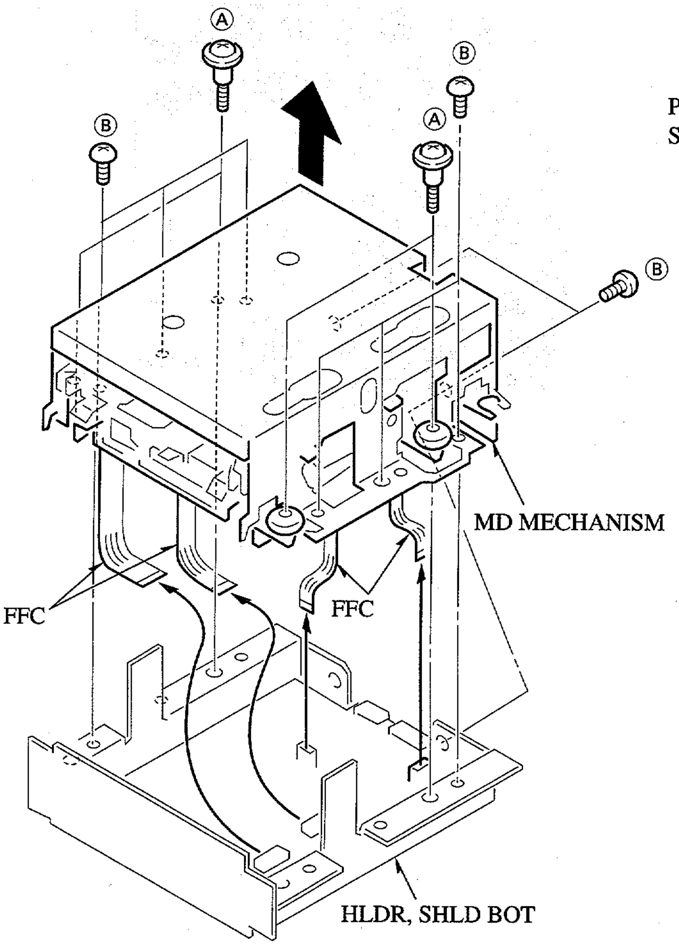

Ⓐ
Ⓑ
Ⓑ
Ⓐ
Ⓑ
MD MECHANISM
FFC
FFC
HLDR, SHLD BOT

Fig-1

2. Remove the HIDR and SHLD TOP in the direction of the arrow. (Fig-2)

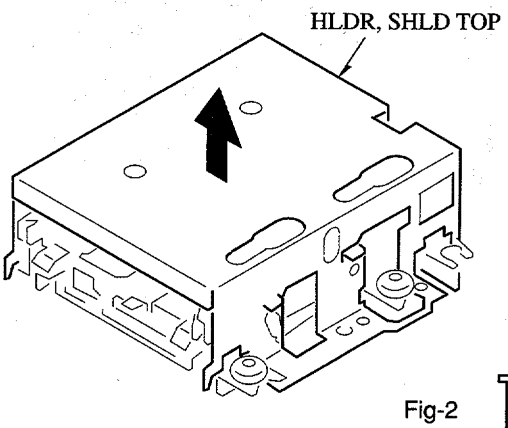

HLDR, SHLD TOP

Fig-2

3. Remove the two screws Ⓒ (VTT +2-4), and remove the PLATE ASSY, SIDE L, PLATE, and SIDE R in the direction of the arrow.
   Remove the screw Ⓓ (VW +1.7-5 w/o MFZN2C), and remove the HEAD and OWH RF325-74A in the direction of the arrow. (Fig-3)

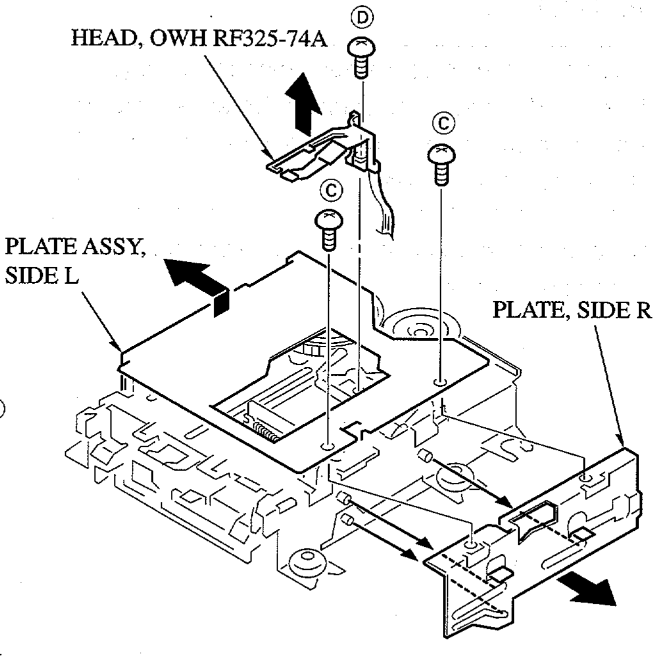

Ⓓ
HEAD, OWH RF325-74A
Ⓒ
Ⓒ
PLATE ASSY, SIDE L
PLATE, SIDE R

Fig-3

4. Open the 7ZG-3 A1 in the direction of the arrow (a), remove the BOSS by pressing it gently in the direction of the arrow (b), and remove the 7ZG-3 A1 in the direction of the arrow (c). (Fig-4)

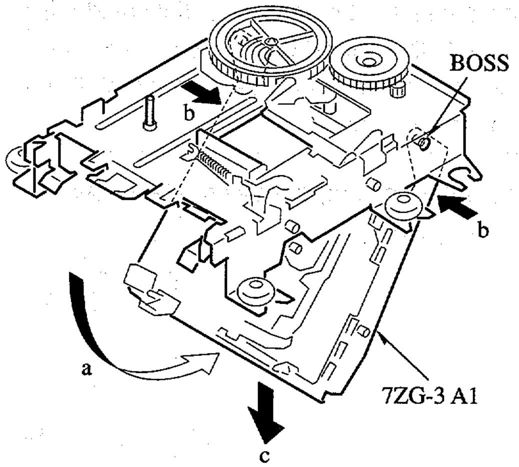

BOSS
b
b
a
7ZG-3 A1
c

Fig-4

Note During Assembling:

Rotate the gear fully in the direction of the arrow, and assemble the main cam into the specified position as shown by the illustration. (Fig-5)

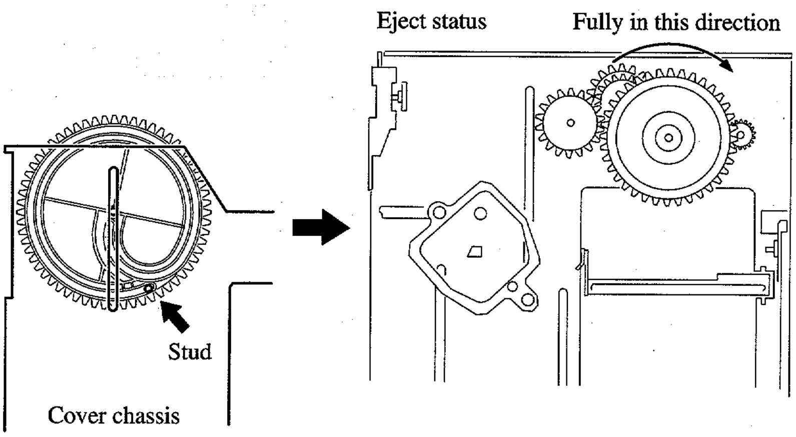

Eject status
Fully in this direction
Stud
Cover chassis

Fig-5

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-446-010		C-IC,LA9241ML
	87-020-454-010		IC,DN6851
	87-A20-187-010		IC,LC78622E
	87-A20-157-010		IC,TA2092N
	87-001-536-010		IC,NJM78M05FA
	87-001-982-010		IC,TA7291S
	87-070-289-040		IC,BU 2092F
	88-CE2-622-010		IC,LC866560W-5H34
	87-NF8-614-010		IC,SPS-442-1-W
	87-A20-455-010		IC,HA12211
	87-A20-355-010		IC,CXA1553P
	87-017-804-010		IC,BU4052BCP
	87-001-607-080		IC,NJM4558M
	87-A20-056-010		IC,BA3880S
	87-A20-715-010		IC,M62439SP
	87-017-888-080		IC,NJM4558MD
	87-017-915-080		IC,BU4094BCF
	87-070-127-110		IC,LC72131 D
	87-A20-913-010		IC,LA1837NL
	87-A20-440-040		C-IC,BU1920FS<EZ>
	87-A20-707-010		C-IC,CXA2523AR
	87-A20-708-010		C-IC,CXD2652AR
	87-A20-709-040		C-IC,BD7910FV
	87-017-920-040		IC,HM51W4400BS/BLS78
	87-A20-755-080		C-IC,AK93C45AF
	87-A20-710-040		C-IC,S-8110AMP
	87-A20-711-040		C-IC,BA5970FP
	87-A20-712-040		C-IC,BA6417F
	87-A20-698-080		C-IC,AK4512VF
	87-017-853-040		IC,NJM2100V
	87-A20-797-040		C-IC,NJU7221U30
	87-A20-798-040		C-IC,NJU7221U35
	87-A20-714-040		C-IC,NJM2370U33
TRANSISTOR			
	87-026-463-080		TR,2SA933S (0.3W)
	87-026-239-080		TR,DTC114TK (0.2W)
	87-026-297-080		TR,DTA144TK
	89-109-521-080		TR,2SA952 (0.6W)
	89-318-155-080		TR,2SC1815 (0.4W)
	89-213-702-010		TR,2SB1370 (1.8W)
	87-026-610-080		TR,KTC3198GR
	87-A30-083-080		TR,CSD1489B
	87-026-609-080		TR,KTA1266GR
	87-A30-152-080		TR,2SC5395F
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-071-080		C-TR,RT1N 144C
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-075-080		C-TR,2SA1235F
	87-A30-076-080		C-TR,2SC3052F
	87-A30-112-080		TR,C2N5551
	87-A30-130-010		TR,2SD2241
	87-A30-128-010		TR,2SB1481
	87-A30-106-070		C-TR,CMBT5551
	87-A30-107-070		C-TR,CMBT5401
	87-A30-087-080		C-FET,2SK2158
	87-A30-047-080		TR,CSD655E
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-159-080		C-TR,KTA1298Y
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-084-080		TR,CSB1058B
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-233-080		TR,DTA114TK-TP
	87-026-225-080		FET,2SJ106GR
	87-026-226-080		CHIP-TR,DTA143EK
	89-505-434-540		C-FET,2SK543(4/5)<EZ>
	87-A30-086-070		C-TR,CSD1306E<EZ>
	87-026-423-080		C-TR RN2305
	89-115-884-080		CHIP-TRANSISTER,2SA1588Y
	89-341-164-080		CHIP-TRANSISTOR,2SC4116Y
	87-026-412-080		C-TR RN1305
DIODE			
	87-070-345-080		DIODE,IN4148
	87-070-178-090		DIODE,1N5402-BD54
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-312-080		ZENER,DZ33M
	87-A40-308-080		ZENER,DZ10M
	87-A40-304-080		ZENER,DZ6.2M
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-001-731-080		ZENER,HZS6C2L
	87-017-083-080		ZENER,HZS4C2
	87-A40-292-080		ZENER,DZ2.7L
	87-A40-301-080		ZENER,DZ5.6L
	87-A40-470-080		DIODE,1SS254
	87-001-166-080		DIODE,1SS301
	87-A40-412-040		C-DIODE,SB05-05CP
MAIN C.B			
C101	87-016-051-090		CAP,E 2200-35 SMG
C104	87-016-051-090		CAP,E 2200-35 SMG
C105	87-012-140-080		CAP 470P
C106	87-010-234-040		CAP,E 47-16 5L
C107	87-010-060-040		CAP,E 100-16
C108	87-010-381-080		CAP, ELECT 330-16V
C113	87-010-403-080		CAP, ELECT 3.3-50V
C207	87-010-069-040		CAP E 0.33-50 5L
C208	87-010-069-040		CAP E 0.33-50 5L
C209	87-010-186-080		CAP,CHIP 4700P
C210	87-010-186-080		CAP,CHIP 4700P
C211	87-010-073-040		CAP,E 3.3-50 5L
C212	87-010-073-040		CAP,E 3.3-50 5L
C213	87-A10-819-040		CAP,E 47-25 5L SRM
C214	87-A10-819-040		CAP,E 47-25 5L SRM
C217	87-010-195-080		C-CAP,S 0.068-25 F
C218	87-010-195-080		C-CAP,S 0.068-25 F
C219	87-010-544-080		CAP, ELECT 0.1-50V
C220	87-010-544-080		CAP, ELECT 0.1-50V
C221	87-010-182-080		C-CAP,S 2200P-50 B<LH>
C221	87-010-187-080		C-CAP,S 5600P-50 B<EZ>
C222	87-010-182-080		C-CAP,S 2200P-50 B<LH>
C222	87-010-187-080		C-CAP,S 5600P-50 B<EZ>
C227	87-010-234-040		CAP,E 47-16 5L
C229	87-010-322-080		C-CAP,S 100P-50 CH
C230	87-010-322-080		C-CAP,S 100P-50 CH
C235	87-012-368-080		C-CAP,S 0.1-50 F
C236	87-012-368-080		C-CAP,S 0.1-50 F
C237	87-010-182-080		C-CAP,S 2200P-50 B
C261	87-010-197-080		CAP, CHIP 0.01 DM
C281	87-010-184-080		CHIP CAPACITOR 3300P(K)<EZ>
C282	87-010-184-080		CHIP CAPACITOR 3300P(K)<EZ>
C285	87-018-125-080		CAP, CER 330P-50V<EZ>
C286	87-018-125-080		CAP, CER 330P-50V<EZ>
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022
C312	87-010-198-080		CAP, CHIP 0.022
C315	87-010-181-080		CAP,CHIP S 1800P
C316	87-010-181-080		CAP,CHIP S 1800P
C317	87-012-142-080		CAP, S 0.33-16
C318	87-012-142-080		CAP, S 0.33-16
C319	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C320	87-012-141-080		CHIP-CAPACITOR,0.22-16F

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C321	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C322	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P
C352	87-012-140-080		CAP 470P
C354	87-010-175-080		CAP 560P
C355	87-010-178-080		CHIP CAP 1000P
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01 DM
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-179-080		CAP,CHIP S B1200P
C372	87-010-179-080		CAP,CHIP S B1200P
C373	87-010-179-080		CAP,CHIP S B1200P
C374	87-010-179-080		CAP,CHIP S B1200P
C375	87-010-545-080		CAP, ELECT 0.22-50V
C376	87-010-545-080		CAP, ELECT 0.22-50V
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C381	87-010-197-080		CAP, CHIP 0.01 DM
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		CAP, CHIP 0.01 DM
C384	87-010-402-080		CAP, ELECT 2.2-50V
C385	87-010-184-080		CHIP CAPACITOR 3300P(K)
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C388	87-010-154-080		CAP CHIP 10P
C399	87-010-407-080		CAP, ELECT 33-50V
C506	87-010-384-080		CAP, ELECT 100-25V
C521	87-010-401-080		CAP, ELECT 1-50V
C522	87-010-401-080		CAP, ELECT 1-50V
C523	87-012-154-080		C-CAP,S 150P-50 CH
C524	87-012-154-080		C-CAP,S 150P-50 CH
C525	87-012-154-080		C-CAP,S 150P-50 CH
C526	87-012-154-080		C-CAP,S 150P-50 CH
C527	87-010-401-080		CAP, ELECT 1-50V
C528	87-010-401-080		CAP, ELECT 1-50V
C533	87-010-197-080		CAP, CHIP 0.01 DM
C534	87-010-381-080		CAP, ELECT 330-16V
C535	87-010-197-080		CAP, CHIP 0.01 DM
C540	87-010-196-080		CHIP CAPACITOR,0.1-25
C541	87-010-196-080		CHIP CAPACITOR,0.1-25
C542	87-010-405-080		CAP, ELECT 10-50V
C561	87-010-180-080		C-CER 1500P
C562	87-010-180-080		C-CER 1500P
C581	87-010-404-080		CAP, ELECT 4.7-50V
C582	87-010-404-080		CAP, ELECT 4.7-50V
C601	87-010-178-080		CHIP CAP 1000P
C602	87-010-178-080		CHIP CAP 1000P
C603	87-010-401-080		CAP, ELECT 1-50V
C604	87-010-401-080		CAP, ELECT 1-50V
C605	87-010-260-080		CAP, ELECT 47-25V
C606	87-010-101-080		CAP, ELECT 220-16
C607	87-010-188-080		CAP,CHIP 6800P
C608	87-010-188-080		CAP,CHIP 6800P
C609	87-012-140-080		CAP 470P
C610	87-012-140-080		CAP 470P
C611	87-010-197-080		CAP, CHIP 0.01 DM
C612	87-010-197-080		CAP, CHIP 0.01 DM
C613	87-010-598-080		C-CAP,S 0.068-16VRK
C614	87-010-598-080		C-CAP,S 0.068-16VRK

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C615	87-010-404-080		CAP, ELECT 4.7-50V
C616	87-010-404-080		CAP, ELECT 4.7-50V
C617	87-010-404-080		CAP, ELECT 4.7-50V
C618	87-010-404-080		CAP, ELECT 4.7-50V
C620	87-010-234-080		CAP 47-16
C621	87-010-196-080		CHIP CAPACITOR,0.1-25
C622	87-010-322-080		C-CAP,S 100P-50 CH
C623	87-010-401-080		CAP, ELECT 1-50V
C624	87-010-401-080		CAP, ELECT 1-50V
C633	87-010-213-080		C-CAP,S 0.015-50 B
C634	87-010-213-080		C-CAP,S 0.015-50 B
C635	87-010-400-080		CAP, ELECT 0.47-50V
C636	87-010-400-080		CAP, ELECT 0.47-50V
C637	87-010-400-080		CAP, ELECT 0.47-50V
C638	87-010-400-080		CAP, ELECT 0.47-50V
C639	87-010-374-080		CAP, ELECT 47-10V
C640	87-010-374-080		CAP, ELECT 47-10V
C641	87-010-401-080		CAP, ELECT 1-50V
C642	87-010-401-080		CAP, ELECT 1-50V
C643	87-010-154-080		CAP CHIP 10P
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-010-197-080		CAP, CHIP 0.01 DM
C704	87-010-197-080		CAP, CHIP 0.01 DM
C709	87-010-322-080		C-CAP,S 100P-50 CH
C711	87-010-263-080		CAP, ELECT 100-10V
C712	87-010-196-080		CHIP CAPACITOR,0.1-25
C713	87-010-197-080		CAP, CHIP 0.01 DM
C714	87-010-197-080		CAP, CHIP 0.01 DM
C715	87-010-322-080		C-CAP,S 100P-50 CH<EZ>
C721	87-010-312-080		C-CAP,S 15P-50 CH
C722	87-010-312-080		C-CAP,S 15P-50 CH
C723	87-010-178-080		CHIP CAP 1000P
C725	87-010-178-080		CHIP CAP 1000P
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C755	87-010-197-080		CAP, CHIP 0.01 DM
C756	87-010-197-080		CAP, CHIP 0.01 DM
C757	87-010-318-080		C-CAP,S 47P-50 CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C761	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C762	87-010-197-080		CAP, CHIP 0.01 DM
C763	87-010-194-080		CAP, CHIP 0.047
C765	87-010-197-080		CAP, CHIP 0.01 DM
C766	87-010-197-080		CAP, CHIP 0.01 DM
C767	87-010-405-080		CAP, ELECT 10-50V
C768	87-010-197-080		CAP, CHIP 0.01 DM
C769	87-010-408-080		CAP, ELECT 47-50V
C770	87-015-821-080		C-CAP 0.047
C771	87-010-407-080		CAP, ELECT 33-50V
C772	87-010-194-080		CAP, CHIP 0.047
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-010-197-080		CAP, CHIP 0.01 DM
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-010-197-080		CAP, CHIP 0.01 DM
C784	87-010-197-080		CAP, CHIP 0.01 DM
C785	87-010-403-080		CAP, ELECT 3.3-50V
C786	87-010-403-080		CAP, ELECT 3.3-50V
C787	87-010-184-080		CHIP CAPACITOR 3300P(K)<LH>
C787	87-010-186-080		CAP,CHIP 4700P<EZ>
C788	87-010-184-080		CHIP CAPACITOR 3300P(K)<LH>
C788	87-010-186-080		CAP,CHIP 4700P<EZ>
C789	87-010-179-080		CAP,CHIP S B1200P

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C790	87-010-179-080		CAP,CHIP S B1200P
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-010-178-080		CHIP CAP 1000P<LH>
C793	87-010-180-080		C-CER 1500P<EZ>
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C797	87-010-182-080		C-CAP,S 2200P-50 B<LH>
C797	87-010-180-080		C-CER 1500P<EZ>
C798	87-010-182-080		C-CAP,S 2200P-50 B<LH>
C798	87-010-180-080		C-CER 1500P<EZ>
C799	87-010-194-080		CAP, CHIP 0.047
C812	87-010-197-080		CAP, CHIP 0.01 DM
C814	87-010-197-080		CAP, CHIP 0.01 DM
C820	87-010-408-080		CAP, ELECT 47-50V
C821	87-010-197-080		CAP, CHIP 0.01 DM
C822	87-010-197-080		CAP, CHIP 0.01 DM
C823	87-010-197-080		CAP, CHIP 0.01 DM
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C861	87-012-156-080		C-CAP,S 220P-50 CH<EZ>
C862	87-012-156-080		C-CAP,S 220P-50 CH<EZ>
C863	87-012-140-080		CAP 470P<EZ>
C864	87-010-405-080		CAP, ELECT 10-50V<EZ>
C865	87-010-196-080		CHIP CAPACITOR,0.1-25<EZ>
C866	87-010-405-080		CAP, ELECT 10-50V<EZ>
C867	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C868	87-010-316-080		C-CAP,S 33P-50 CH<EZ>
C869	87-010-314-080		C-CAP,S 22P-50V<EZ>
C940	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C942	87-010-151-080		C-CAP,S 7P-50 CH<EZ>
C947	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C949	87-014-049-080		CAP,PP 470P-100 J<EZ>
C952	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C957	87-010-311-080		CAP 12P<EZ>
C958	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-010-152-080		C-CAP,S 8P-50 CH<LH>
C962	87-010-401-080		CAP, ELECT 1-50V<EZ>
CF801	87-008-423-010		CERAMIC FILTER, SFE10.7<EZ>
CF801	87-008-261-010		FILTER, SFE10.7MA5-A<LH>
CF802	82-785-747-010		CF MS2 GHY R<EZ>
CF802	87-008-261-010		FILTER, SFE10.7MA5-A<LH>
FFE801	A8-6ZA-19C-170		6ZA-1 YFEENC<EZ>
FFE801	A8-8ZA-193-070		8ZA-1 YFEUNC<LH>
J201	87-A60-420-010		JACK,3.5 ST (MSC)
J202	87-099-801-010		JACK,PIN 1P BLK
J203	87-A60-659-010		TERMINAL,SPKR 4P HSP-134V-05Z
J503	80-MT3-616-010		JACK,PIN 2P
J802	87-033-239-010		TERMINAL,HSP-154V-2<LH>
J802	87-033-230-010		TERMINAL,ANT AJ-2016<EZ>
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L770	87-005-847-080		COIL,2.2UH(CECS)
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L791	87-A50-027-010		COIL,1 POLE MPX(TOK)<EZ>
L791	87-A50-209-010		COIL,1POLE MPX(MIT)<LH>
L792	87-A50-027-010		COIL,1 POLE MPX(TOK)<EZ>
L792	87-A50-209-010		COIL,1POLE MPX(MIT)<LH>
L832	87-005-847-080		COIL,2.2UH(CECS)
L850	87-005-847-080		COIL,2.2UH(CECS)<EZ>
L941	87-A50-020-010		COIL,ANT LW(COI)<EZ>
L942	87-A50-019-010		COIL,OSC LW(COI)<EZ>
L981	87-NF4-651-010		COIL,AM PACK2N(TOM)

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
⚠PR201	87-A90-094-080		PROTECTOR,4A 491SERIES 60V
⚠PR202	87-A90-094-080		PROTECTOR,4A 491SERIES 60V
R223	87-A00-258-080		RES,M/F 0.22-1W J
R224	87-A00-258-080		RES,M/F 0.22-1W J
R249	87-A00-258-080		RES,M/F 0.22-1W J
R250	87-A00-258-080		RES,M/F 0.22-1W J
SFR303	87-A90-636-080		SFR,33K H RH0638C LG
SFR304	87-A90-636-080		SFR,33K H RH0638C LG
SFR305	87-A90-637-080		SFR,47K H RH0638C LG
SFR306	87-A90-637-080		SFR,47K H RH0638C LG
SFR351	87-A90-637-080		SFR,47K H RH0638C LG
SFR352	87-A90-637-080		SFR,47K H RH0638C LG
W101	88-CE2-656-010		F-CABLE,8P 2.5 270MM
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X850	87-A70-091-010		VIB,XTAL 4.332MHZ CSA-309<EZ>
FR C.B			
C151	87-010-196-080		CHIP CAPACITOR,0.1-25
C152	87-010-322-080		C-CAP,S 100P-50 CH
C201	87-012-145-080		CAP, CHIP S 270P CH
C203	87-010-312-080		C-CAP,S 15P-50 CH
C204	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C205	87-010-196-080		CHIP CAPACITOR,0.1-25
C231	87-010-405-040		CAP,E 10-50
C232	87-010-178-080		CHIP CAP 1000P
C241	87-010-401-040		CAP,E 1-50 SME
C242	87-010-370-040		CAP,E 330-6.3 SME
C243	87-010-196-080		CHIP CAPACITOR,0.1-25
C245	87-010-263-040		CAP,E 100-10
C246	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-421-040		CAP,E 4.7-50 5L
C372	87-010-421-040		CAP,E 4.7-50 5L
C373	87-010-408-040		CAP,E 47-50 SME
C501	87-010-196-080		CHIP CAPACITOR,0.1-25
CN401	88-802-092-220		CONN ASSY,9P
D153	87-002-738-080		LED,SEL2210R TP6
D154	87-001-161-080		LED SEL2410E
D155	87-001-161-080		LED SEL2410E
D156	87-001-161-080		LED SEL2410E
D157	87-001-161-080		LED SEL2410E
D158	87-001-161-080		LED SEL2410E
D161	87-A40-276-080		LED,SML1816W UMB/GRN
D163	87-A40-276-080		LED,SML1816W UMB/GRN
D165	87-A40-276-080		LED,SML1816W UMB/GRN
D167	87-A40-276-080		LED,SML1816W UMB/GRN
D169	87-A40-276-080		LED,SML1816W UMB/GRN
FL301	88-CE2-621-010		FL,13-ST-29GK
L201	87-A50-052-010		COIL,CLOCK 5.76MHZ T1
S301	87-A90-696-080		SW,TACT TS2103-03-430
S302	87-A90-696-080		SW,TACT TS2103-03-430
S303	87-A90-696-080		SW,TACT TS2103-03-430
S304	87-A90-696-080		SW,TACT TS2103-03-430
S305	87-A90-696-080		SW,TACT TS2103-03-430
S306	87-A90-696-080		SW,TACT TS2103-03-430
S307	87-A90-696-080		SW,TACT TS2103-03-430
S308	87-A90-696-080		SW,TACT TS2103-03-430
S309	87-A90-696-080		SW,TACT TS2103-03-430
S310	87-A90-696-080		SW,TACT TS2103-03-430
S311	87-A90-696-080		SW,TACT TS2103-03-430
S321	87-A90-696-080		SW,TACT TS2103-03-430
S322	87-A90-696-080		SW,TACT TS2103-03-430
S323	87-A90-696-080		SW,TACT TS2103-03-430
S324	87-A90-696-080		SW,TACT TS2103-03-430
S325	87-A90-696-080		SW,TACT TS2103-03-430
S351	87-A90-801-010		SW,RTRY 1-2-24 EVQVENF0324BSL
S352	87-A90-535-010		SW,RTRY EC16B24304
W301	88-CE2-644-010		F-CABLE,2P 2.5 100MM
CD C.B			

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C1	87-010-403-080		CAP, ELECT 3.3-50V
C2	87-010-197-080		CAP, CHIP 0.01 DM
C3	87-010-263-080		CAP, ELECT 100-10V
C4	87-010-248-080		CAP, ELECT 220-10V
C5	87-010-197-080		CAP, CHIP 0.01 DM
C6	87-010-374-080		CAP, ELECT 47-10V
C7	87-012-349-080		C-CAP,S 1000P-50 CH
C8	87-010-198-080		CAP, CHIP 0.022
C9	87-010-263-080		CAP, ELECT 100-10V
C10	87-010-263-080		CAP, ELECT 100-10V
C12	87-010-401-080		CAP, ELECT 1-50V
C13	87-010-197-080		CAP, CHIP 0.01 DM
C14	87-010-405-080		CAP, ELECT 10-50V
C16	87-010-545-080		CAP, ELECT 0.22-50V
C17	87-012-349-080		C-CAP,S 1000P-50 CH
C18	87-010-213-080		C-CAP,S 0.015-50 B
C20	87-010-193-080		CHIP CAPACITOR,0.033
C23	87-010-992-080		C-CAP,S 0.047-25 B
C29	87-010-186-080		CAP,CHIP 4700P
C30	87-012-156-080		C-CAP,S 220P-50 CH
C31	87-010-545-080		CAP, ELECT 0.22-50V
C32	87-010-374-080		CAP, ELECT 47-10V
C33	87-010-401-080		CAP, ELECT 1-50V
C34	87-010-182-080		C-CAP,S 2200P-50 B
C35	87-010-197-080		CAP, CHIP 0.01 DM
C36	87-010-374-080		CAP, ELECT 47-10V
C37	87-010-404-080		CAP, ELECT 4.7-50V
C38	87-010-196-080		CHIP CAPACITOR,0.1-25
C39	87-012-349-080		C-CAP,S 1000P-50 CH
C40	87-010-147-080		C-CAP,S 3P-50 CH
C42	87-010-314-080		C-CAP,S 22P-50V
C45	87-010-196-080		CHIP CAPACITOR,0.1-25
C46	87-010-196-080		CHIP CAPACITOR,0.1-25
C47	87-010-196-080		CHIP CAPACITOR,0.1-25
C48	87-010-315-080		C-CAP,S 27P-50 CH
C50	87-012-140-080		CAP 470P
C51	87-010-994-080		C-CAP,S 680P-50 CH
C57	87-010-316-080		C-CAP,S 33P-50 CH
C58	87-010-316-080		C-CAP,S 33P-50 CH
C59	87-010-263-080		CAP, ELECT 100-10V
C60	87-010-196-080		CHIP CAPACITOR,0.1-25
C61	87-010-196-080		CHIP CAPACITOR,0.1-25
C62	87-010-370-080		CAP,E 330-6.3 SME
C65	87-010-404-080		CAP, ELECT 4.7-50V
C66	87-010-196-080		CHIP CAPACITOR,0.1-25
C67	87-010-263-080		CAP, ELECT 100-10V
C68	87-010-322-080		C-CAP,S 100P-50 CH
C75	87-010-197-080		CAP, CHIP 0.01 DM
C76	87-A10-102-080		CAP,E 1000-10 REA
C77	87-010-263-080		CAP, ELECT 100-10V
C78	87-010-197-080		CAP, CHIP 0.01 DM
C79	87-010-197-080		CAP, CHIP 0.01 DM
C80	87-010-112-080		CAP, ELECT 100-16V
C81	87-010-405-080		CAP, ELECT 10-50V
C82	87-010-405-080		CAP, ELECT 10-50V
C83	87-010-181-080		CAP,CHIP S 1800P
C84	87-010-181-080		CAP,CHIP S 1800P
C90	87-010-197-080		CAP, CHIP 0.01 DM
C91	87-010-404-080		CAP, ELECT 4.7-50V
C92	87-010-387-080		CAP,E 470-25 SME
C93	87-010-197-080		CAP, CHIP 0.01 DM
C94	87-010-197-080		CAP, CHIP 0.01 DM
C95	87-010-197-080		CAP, CHIP 0.01 DM
C96	87-010-221-080		CAP, ELECT 470-10V
C97	87-010-197-080		CAP, CHIP 0.01 DM
C98	87-012-154-080		C-CAP,S 150P-50 CH
C101	87-010-322-080		C-CAP,S 100P-50 CH
C102	87-010-322-080		C-CAP,S 100P-50 CH
C103	87-010-322-080		C-CAP,S 100P-50 CH
C104	87-010-322-080		C-CAP,S 100P-50 CH
C105	87-010-322-080		C-CAP,S 100P-50 CH
C110	87-010-196-080		CHIP CAPACITOR,0.1-25
C601	87-010-196-080		CHIP CAPACITOR,0.1-25
C602	87-010-124-090		CAP,E 4700-16
C603	87-010-196-080		CHIP CAPACITOR,0.1-25
C604	87-010-252-080		CAP, ELECT 1000-6.3V
C605	87-010-403-080		CAP, ELECT 3.3-50V
C607	87-010-404-080		CAP, ELECT 4.7-50V
C608	87-010-404-080		CAP, ELECT 4.7-50V
C609	87-010-180-080		C-CER 1500P
C610	87-010-180-080		C-CER 1500P
C611	87-012-156-080		C-CAP,S 220P-50 CH
C612	87-012-156-080		C-CAP,S 220P-50 CH
C613	87-010-402-080		CAP, ELECT 2.2-50V
C614	87-010-402-080		CAP, ELECT 2.2-50V
C615	87-010-196-080		CHIP CAPACITOR,0.1-25
C616	87-010-408-080		CAP, ELECT 47-50V
C617	87-010-101-080		CAP, ELECT 220-16
C618	87-012-140-080		CAP 470P
C619	87-010-407-080		CAP, ELECT 33-50V
C620	87-010-407-080		CAP, ELECT 33-50V
C661	87-010-401-080		CAP, ELECT 1-50V
C662	87-010-401-080		CAP, ELECT 1-50V
FC1	88-CE2-654-010		FF-CABLE, 16P 1.0 250MM PICK
FC2	88-CE2-641-010		FF-CABLE, 14P 1.0 300MM N
FC3	88-912-271-110		FF-CABLE, 12P 1.25 270MM
FC4	88-CE2-640-010		FF-CABLE, 8P 1.0 300MM N
FC5	88-906-171-110		FF-CABLE,6P 1.25
FC6	88-905-431-110		FF-CABLE, 5P 1.25 430MM
L1	87-003-102-080		COIL, 10UH
R70	87-029-019-080		RES,FUSE 2.2-1/2W
X1	87-030-313-080		VIB,XTAL 16.9344MHZ

KEY C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
S326	87-A90-696-080		SW,TACT TS2103-03-430
S327	87-A90-696-080		SW,TACT TS2103-03-430
S328	87-A90-696-080		SW,TACT TS2103-03-430
S329	87-A90-696-080		SW,TACT TS2103-03-430
S330	87-A90-696-080		SW,TACT TS2103-03-430
S331	87-A90-696-080		SW,TACT TS2103-03-430

PT-S C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C103	87-010-928-090		CAP,E 4700-25 SMG
C109	87-010-260-080		CAP, ELECT 47-25V
C110	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-263-080		CAP, ELECT 100-10V
C122	87-010-260-080		CAP, ELECT 47-25V
C123	87-010-260-080		CAP, ELECT 47-25V
C125	87-010-247-010		CAP,E 100U-5
C167	87-010-196-080		CHIP CAPACITOR,0.1-25
C168	87-010-196-080		CHIP CAPACITOR,0.1-25
C169	87-010-196-080		CHIP CAPACITOR,0.1-25
C170	87-010-196-080		CHIP CAPACITOR,0.1-25
⚠PR101	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR102	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR103	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR104	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR105	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR106	87-026-681-080		PROTECTOR,5A 60V 491

PT-P C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
⚠	87-A90-505-080		FUSE CLAMP,TP00351-51
⚠	87-A60-317-010		TERMINAL, 1P MSC
⚠F107	87-035-224-010		FUSE, 1.6AT<LH>
⚠F107	87-035-222-010		FUSE, 1AT<EZ>
⚠PT101	88-CE2-652-010		PT,EZ<EZ>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
⚠PT101	88-CE2-653-010		PT,H<LH>
⚠S101	87-A90-234-010		SW,SL 1-2-2 SW2201<LH>

MD C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C100	87-A10-418-080		C-CAP,TN 22-4 A TCF
C101	87-A10-418-080		C-CAP,TN 22-4 A TCF
C102	87-012-286-080		CAP, U 0.01-25
C103	87-010-787-080		CAP, U 0.022-25
C104	87-010-662-080		C-CAP,E 22-6.3
C105	87-010-831-080		C-CAP,U,0.1-16F
C106	87-016-462-080		C-CAP,S 1-16 F
C107	87-012-195-080		C-CAP,U 100P-50CH
C108	87-012-274-080		CHIP CAP,U 1000P-50B
C109	87-016-436-080		C-CAP,TN 47-4(B2)
C111	87-A10-418-080		C-CAP,TN 22-4 A TCF
C112	87-012-286-080		CAP, U 0.01-25
C113	87-012-284-080		CAP, U 6800P-50
C114	87-010-828-080		CHIP CAPACITOR,U 0.033-25F
C115	87-A10-369-080		C-CAP,S 0.47-16 K B
C116	87-012-282-080		CAP, U 4700P-50
C117	87-016-462-080		C-CAP,S 1-16 F
C118	87-012-282-080		CAP, U 4700P-50
C119	87-016-491-080		C-CAP,S 0.22-16 FZ
C120	87-010-787-080		CAP, U 0.022-25
C121	87-012-286-080		CAP, U 0.01-25
C122	87-010-829-080		CAP, U 0.047-16
C123	87-012-286-080		CAP, U 0.01-25
C124	87-010-662-080		C-CAP,E 22-6.3
C125	87-010-662-080		C-CAP,E 22-6.3
C201	87-010-831-080		C-CAP,U,0.1-16F
C202	87-010-831-080		C-CAP,U,0.1-16F
C203	87-010-785-080		C-CAP,U0.015-25BK
C204	87-016-461-080		C-CAP,S 0.47-16F
C205	87-010-831-080		C-CAP,U,0.1-16F
C206	87-012-270-080		CAP, U 470P-50
C207	87-016-461-080		C-CAP,S 0.47-16F
C208	87-012-286-080		CAP, U 0.01-25
C209	87-010-831-080		C-CAP,U,0.1-16F
C210	87-012-172-080		CAPACITOR CHIP U 10P CH
C211	87-012-172-080		CAPACITOR CHIP U 10P CH
C212	87-012-195-080		C-CAP,U 100P-50CH
C213	87-010-662-080		C-CAP,E 22-6.3
C214	87-012-274-080		CHIP CAP,U 1000P-50B
C217	87-012-188-080		C-CAP,U 47P-50 CH
C218	87-012-188-080		C-CAP,U 47P-50 CH
C219	87-A10-418-080		C-CAP,TN 22-4 A TCF
C220	87-010-662-080		C-CAP,E 22-6.3
C221	87-010-831-080		C-CAP,U,0.1-16F
C222	87-016-444-080		C-CAP,TN 47-10 F95E
C223	87-010-831-080		C-CAP,U,0.1-16F
C224	87-A10-685-080		C-CAP,S 470P-100 J CH
C225	87-010-831-080		C-CAP,U,0.1-16F
C226	87-010-831-080		C-CAP,U,0.1-16F
C227	87-012-274-080		CHIP CAP,U 1000P-50B
C228	87-012-274-080		CHIP CAP,U 1000P-50B
C229	87-012-274-080		CHIP CAP,U 1000P-50B
C232	87-012-274-080		CHIP CAP,U 1000P-50B
C233	87-012-274-080		CHIP CAP,U 1000P-50B
C236	87-010-831-080		C-CAP,U,0.1-16F
C300	87-010-831-080		C-CAP,U,0.1-16F
C301	87-010-831-080		C-CAP,U,0.1-16F
C302	87-010-831-080		C-CAP,U,0.1-16F
C305	87-016-462-080		C-CAP,S 1-16 F
C307	87-010-831-080		C-CAP,U,0.1-16F
C308	87-010-831-080		C-CAP,U,0.1-16F
C311	87-010-662-080		C-CAP,E 22-6.3
C312	87-012-195-080		C-CAP,U 100P-50CH
C321	87-012-274-080		CHIP CAP,U 1000P-50B
C322	87-012-274-080		CHIP CAP,U 1000P-50B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C323	87-012-274-080		CHIP CAP,U 1000P-50B
C324	87-012-274-080		CHIP CAP,U 1000P-50B
C325	87-012-274-080		CHIP CAP,U 1000P-50B
C400	87-010-831-080		C-CAP,U,0.1-16F
C401	87-010-831-080		C-CAP,U,0.1-16F
C402	87-010-831-080		C-CAP,U,0.1-16F
C403	87-010-831-080		C-CAP,U,0.1-16F
C404	87-010-831-080		C-CAP,U,0.1-16F
C405	87-010-661-080		C-CAP,E 10-16
C406	87-010-779-080		C-CAP,E 100-6.3
C407	87-012-197-080		C-CAP,U 150P-50 CH
C408	87-012-197-080		C-CAP,U 150P-50 CH
C411	87-012-271-080		CAP, U 560P-50
C412	87-012-271-080		CAP, U 560P-50
C413	87-012-197-080		C-CAP,U 150P-50 CH
C414	87-012-197-080		C-CAP,U 150P-50 CH
C417	87-012-268-080		C-CAP,U 330P-50 B
C418	87-012-268-080		C-CAP,U 330P-50 B
C423	87-012-286-080		CAP, U 0.01-25
C424	87-012-286-080		CAP, U 0.01-25
C429	87-012-286-080		CAP, U 0.01-25
C430	87-012-286-080		CAP, U 0.01-25
C431	87-010-779-080		C-CAP,E 100-6.3
C434	87-010-831-080		C-CAP,U,0.1-16F
C501	87-010-831-080		C-CAP,U,0.1-16F
C502	87-010-831-080		C-CAP,U,0.1-16F
C503	87-010-662-080		C-CAP,E 22-6.3
C504	87-010-831-080		C-CAP,U,0.1-16F
C505	87-010-662-080		C-CAP,E 22-6.3
C506	87-010-831-080		C-CAP,U,0.1-16F
C507	87-010-661-080		C-CAP,E 10-16
C508	87-010-831-080		C-CAP,U,0.1-16F
C509	87-010-662-080		C-CAP,E 22-6.3
C510	87-010-831-080		C-CAP,U,0.1-16F
C511	87-010-661-080		C-CAP,E 10-16
C513	87-010-661-080		C-CAP,E 10-16
C514	87-010-661-080		C-CAP,E 10-16
C515	87-012-337-080		C-CAP,U 56P-50 CH
C516	87-012-337-080		C-CAP,U 56P-50 CH
C517	87-012-278-080		C-CAP,U 2200P-50 B
C518	87-012-278-080		C-CAP,U 2200P-50 B
C519	87-010-831-080		C-CAP,U,0.1-16F
C520	87-010-661-080		C-CAP,E 10-16
C521	87-010-831-080		C-CAP,U,0.1-16F
C522	87-010-661-080		C-CAP,E 10-16
C523	87-010-662-080		C-CAP,E 22-6.3
C524	87-010-662-080		C-CAP,E 22-6.3
C525	87-012-274-080		CHIP CAP,U 1000P-50B
C526	87-012-274-080		CHIP CAP,U 1000P-50B
C527	87-010-661-080		C-CAP,E 10-16
C528	87-010-661-080		C-CAP,E 10-16
C530	87-010-831-080		C-CAP,U,0.1-16F
C531	87-010-831-080		C-CAP,U,0.1-16F
C600	87-010-662-080		C-CAP,E 22-6.3
C601	87-010-779-080		C-CAP,E 100-6.3
C602	87-010-779-080		C-CAP,E 100-6.3
C603	87-010-662-080		C-CAP,E 22-6.3
C604	87-010-779-080		C-CAP,E 100-6.3
C605	87-012-286-080		CAP, U 0.01-25
C607	87-010-831-080		C-CAP,U,0.1-16F
C608	87-010-831-080		C-CAP,U,0.1-16F
FC100	87-ZG9-602-010		FF-CABLE, 21P 0.5 90MM
FC400	87-ZG9-603-010		FF-CABLE, 8P 1.0 120MM
FC401	87-ZG9-604-010		FF-CABLE, 5P 1.25 100MM
L100	87-A50-117-080		C-COIL,10UHLQH3C
L101	87-A50-012-080		C-COIL,100UH LQH3C
L102	87-A50-117-080		C-COIL,10UHLQH3C
L103	87-A50-117-080		C-COIL,10UHLQH3C
L201	87-A50-117-080		C-COIL,10UHLQH3C
L202	87-A50-117-080		C-COIL,10UHLQH3C

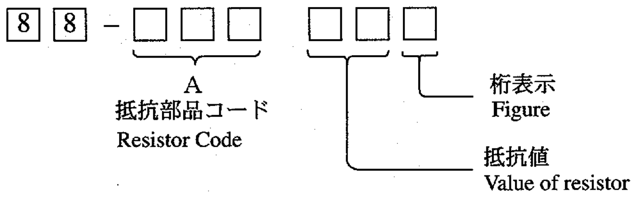
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
L203	87-A50-116-080		C-COIL,4.7UHLQH3C
L301	87-A50-117-080		C-COIL,10UHLQH3C
L501	87-A50-116-080		C-COIL,4.7UHLQH3C
L502	87-A50-116-080		C-COIL,4.7UHLQH3C
L503	87-A50-116-080		C-COIL,4.7UHLQH3C
L504	87-005-774-080		C-COIL,4BLH
L505	87-005-774-080		C-COIL,4BLH
L611	87-A50-163-080		C-COIL,ZBFS5101-PT
L612	87-005-512-080		C-COIL,BLM21A05
L613	87-005-512-080		C-COIL,BLM21A05
L614	87-A50-163-080		C-COIL,ZBFS5101-PT
L615	87-A90-034-080		C-FLTR,EMI BLM41P750
L616	87-A50-163-080		C-COIL,ZBFS5101-PT
R423	87-025-564-080		C-RES,U M/F 47K D
R424	87-025-564-080		C-RES,U M/F 47K D
R425	87-022-583-080		C-RES,U M/F 12K D
R426	87-022-583-080		C-RES,U M/F 12K D
X200	87-A70-105-080		C-VIB,XTAL 22.5792MHZ SMD-49
X301	87-A70-100-080		C-VIB,CER 12.0MHZ PBRC-BR-A
LOAD C.B			
M450	87-A90-672-010		MOT,M25E-4
SW451	87-A90-673-010		SW,MICRO ESE11SH1C
SW452	87-A90-117-010		SW,PUSH 1-1-1 MPU103
MECHA C.B			
SW400	87-A90-611-010		SW,PUSH 3-2-2 MPU20300MLB0
SW401	87-A90-612-010		SW,PUSH 2-1-1 MPU10371MLB1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
DECK C.B			
SFR1	87-024-581-010		SFR,3.3K DIA 6H KOA
SOL2	82-ZM1-618-310		SOL ASSY,27
SW2	87-036-110-010		SW,PUSH SPPB 62
SW3	87-036-110-010		SW,PUSH SPPB 62
SW4	87-036-110-010		SW,PUSH SPPB 62
SW5	87-036-110-010		SW,PUSH SPPB 62
SW6	87-A90-248-010		SW,MICRO ESE11SH
RELAY C.B			
CON301	88-CE2-655-010		CONN ASSY,7P V RPH
DRIVE C.B			
M20	87-045-358-019		MOT,RF-310TA 43
M21	87-045-356-019		MOT,RF-310TA 30
SW1	87-A90-042-019		SW,LEAF MSW 17310 MVPO
CD MOTOR C.B			
M1	87-045-305-019		MOTOR, RF-500TB
SW1	87-036-110-019		SW,PUSH SPPB 62
SW2	87-036-110-019		SW,PUSH SPPB 62

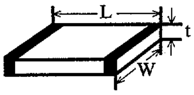
- コネクタについては、初回発注の扱いとはせず、受注後に業者へ発注し、供給致します。
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding

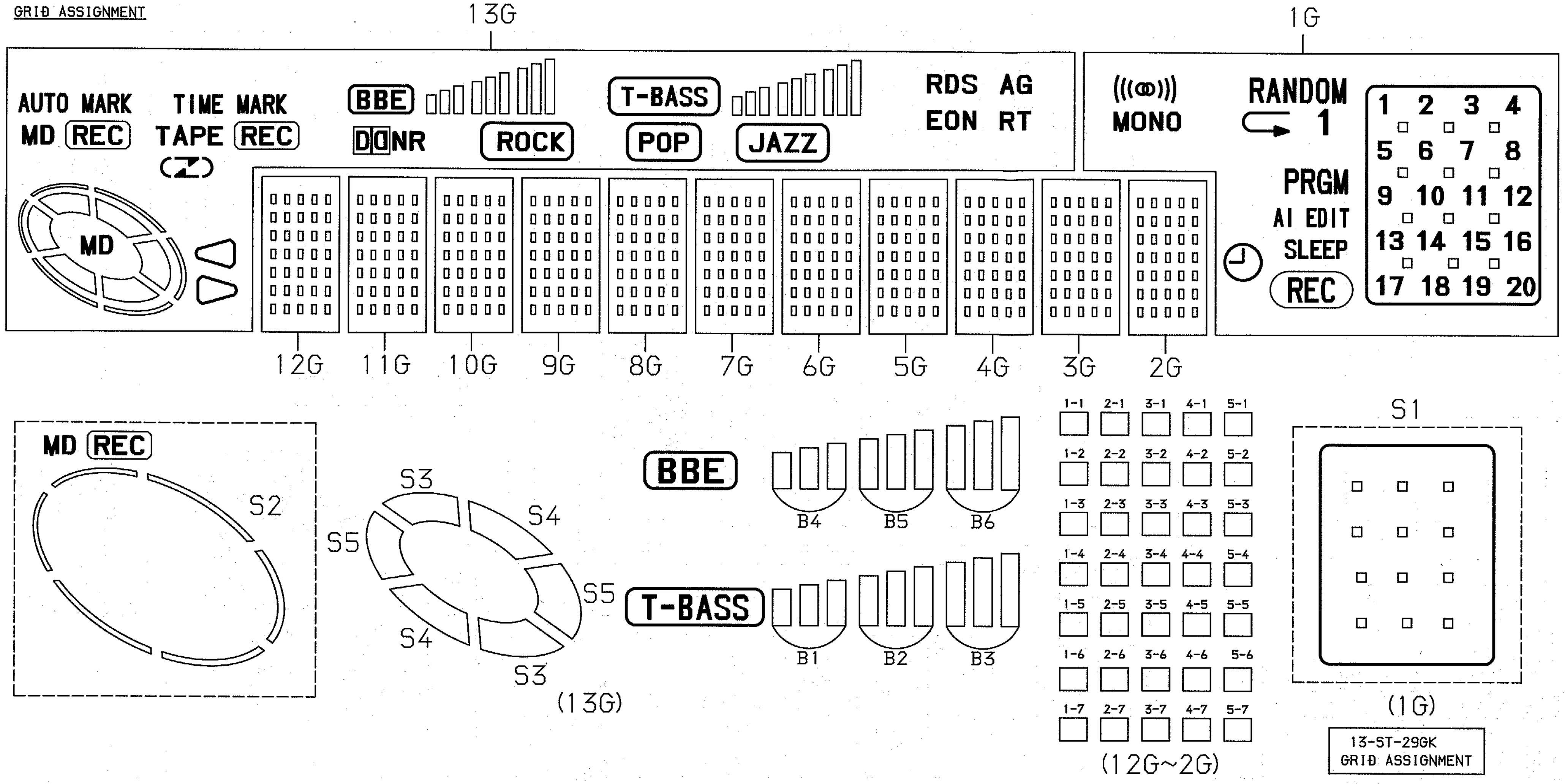


チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード :A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

FL (13-ST-29GK) GRID ASSIGNMENT/ANODE CONNECTION

GRID ASSIGNMENT


13G
1G
AUTO MARK
TIME MARK
MD REC
TAPE REC
BBE
DD NR
ROCK
T-BASS
POP
JAZZ
RDS AG
EON RT
MONO
RANDOM
1
PRGM
AI EDIT
SLEEP
REC
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
MD
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
MD REC
S2
S3
S4
S5
S5
S4
S3
(13G)
BBE
T-BASS
B4
B5
B6
B1
B2
B3
1-1 2-1 3-1 4-1 5-1
1-2 2-2 3-2 4-2 5-2
1-3 2-3 3-3 4-3 5-3
1-4 2-4 3-4 4-4 5-4
1-5 2-5 3-5 4-5 5-5
1-6 2-6 3-6 4-6 5-6
1-7 2-7 3-7 4-7 5-7
(12G~2G)
S1
(1G)

13-ST-29GK
GRID ASSIGNMENT

ANODE CONNECTION

	13G	12G~2G	1G
P1	JAZZ	1-1	1
P2	POP	2-1	↪
P3	ROCK	3-1	MONO
P4	DD NR	4-1	PANDOM
P5	RT	5-1	((∞))
P6	EON	1-2	PRGM
P7	AG	2-2	AI
P8	RDS	3-2	EDIT
P9	B1	4-2	SLEEP
P10	B2	5-2	◷
P11	B3	1-3	REC
P12	T-BASS	2-3	(カレンダー) 1
P13	B4	3-3	2
P14	B5	4-3	3
P15	B6	5-3	4
P16	BBE	1-4	5
P17	◁	2-4	6
P18	▷	3-4	7

	13G	12G~2G	1G
P19	)	4-4	8
P20	⇄	5-4	9
P21	(	1-5	10
P22	TAPE REC	2-5	11
P23	S2	3-5	12
P24	S3	4-5	13
P25	S4	5-5	14
P26	S5	1-6	15
P27	MD	2-6	16
P28	TIME MARK	3-6	17
P29	AUTO MARK	4-6	18
P30	-	5-6	19
P31	-	1-7	20
P32	-	2-7	S1
P33	-	3-7	-
P34	-	4-7	-
P35	-	5-7	-

13-ST-29GK
ANODE CONNECTION

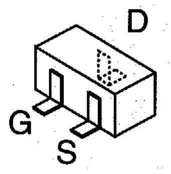
PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
CONNECTION	F1	F1	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24

PIN NO.	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
CONNECTION	P25	P26	P27	P28	P29	P30	P31	P32	P33	P34	P35	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	NP	F2	F2

NOTE 1) F1, F2---Filament
2) NP------No Pin
3) 1G~13G--Grid

TRANSISTOR ILLUSTRATION



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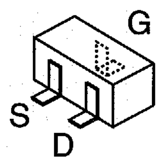

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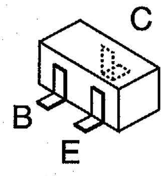
2SK543



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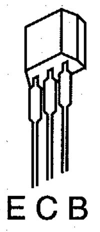
2SA1588
2SC2714
2SC3052
2SC4116
CMBT5401
CMBT5551
CSD1306
DTA114TK
DTA143EK
DTA144TK
DTC114TK
KTA1298
RN1305
RN2305
RT1N141C
RT1N144C
RT1P141C
RT1P144C
RT1P441C



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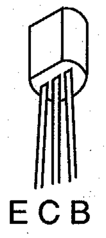

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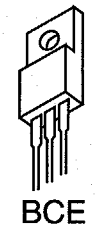
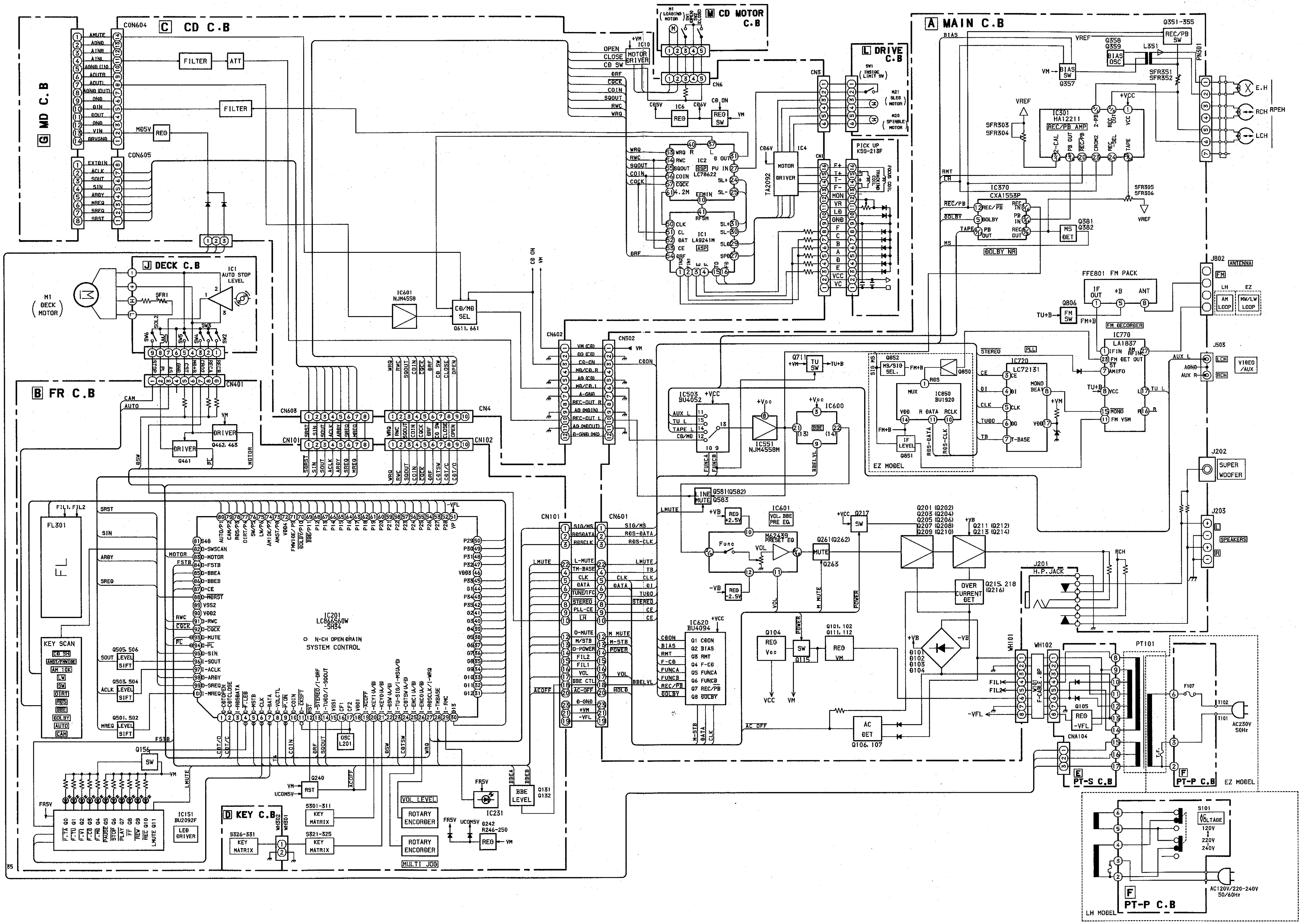
C2N5551
CSB1058
CSD655
CSD1489
KTA1266
KTC3198

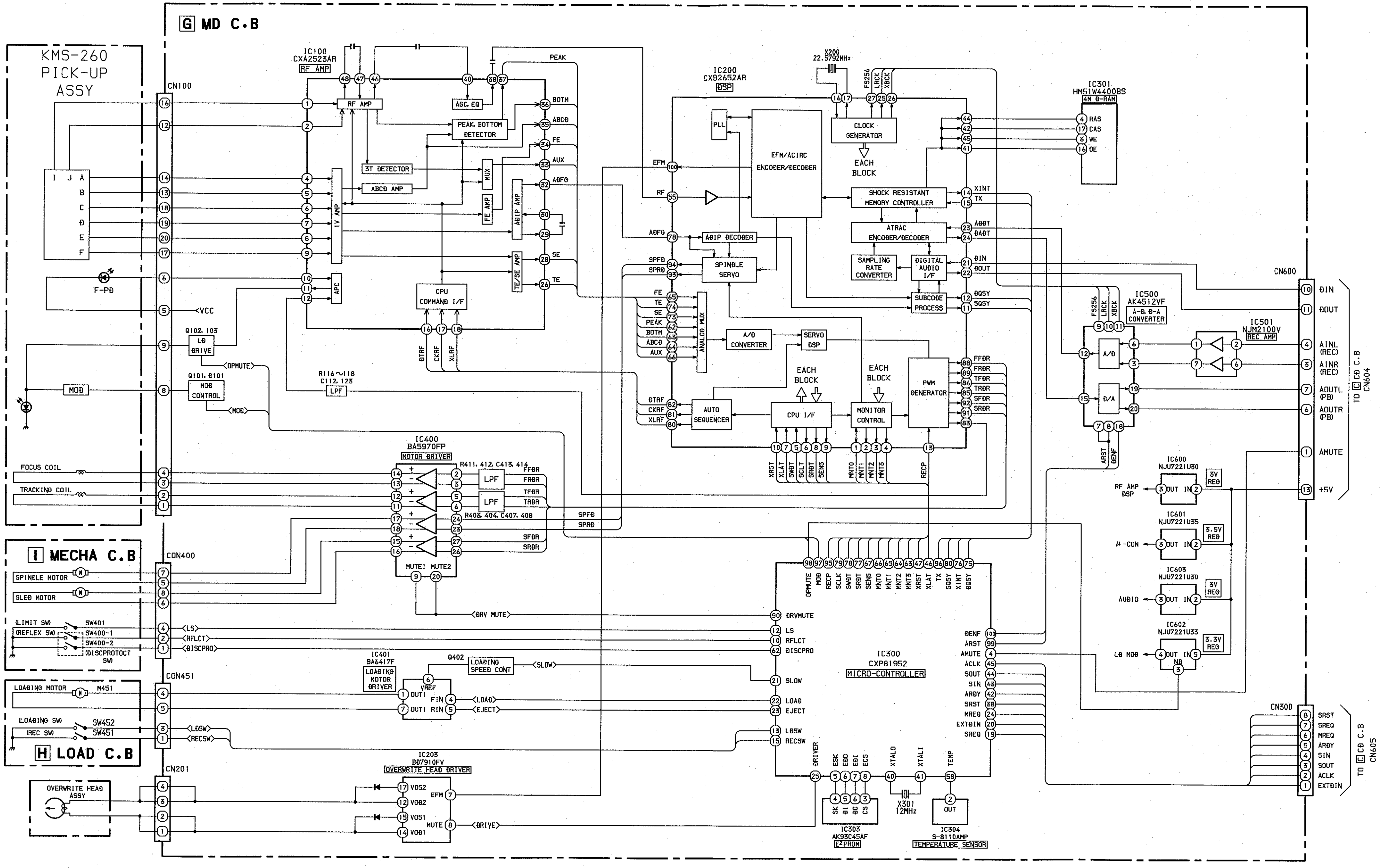


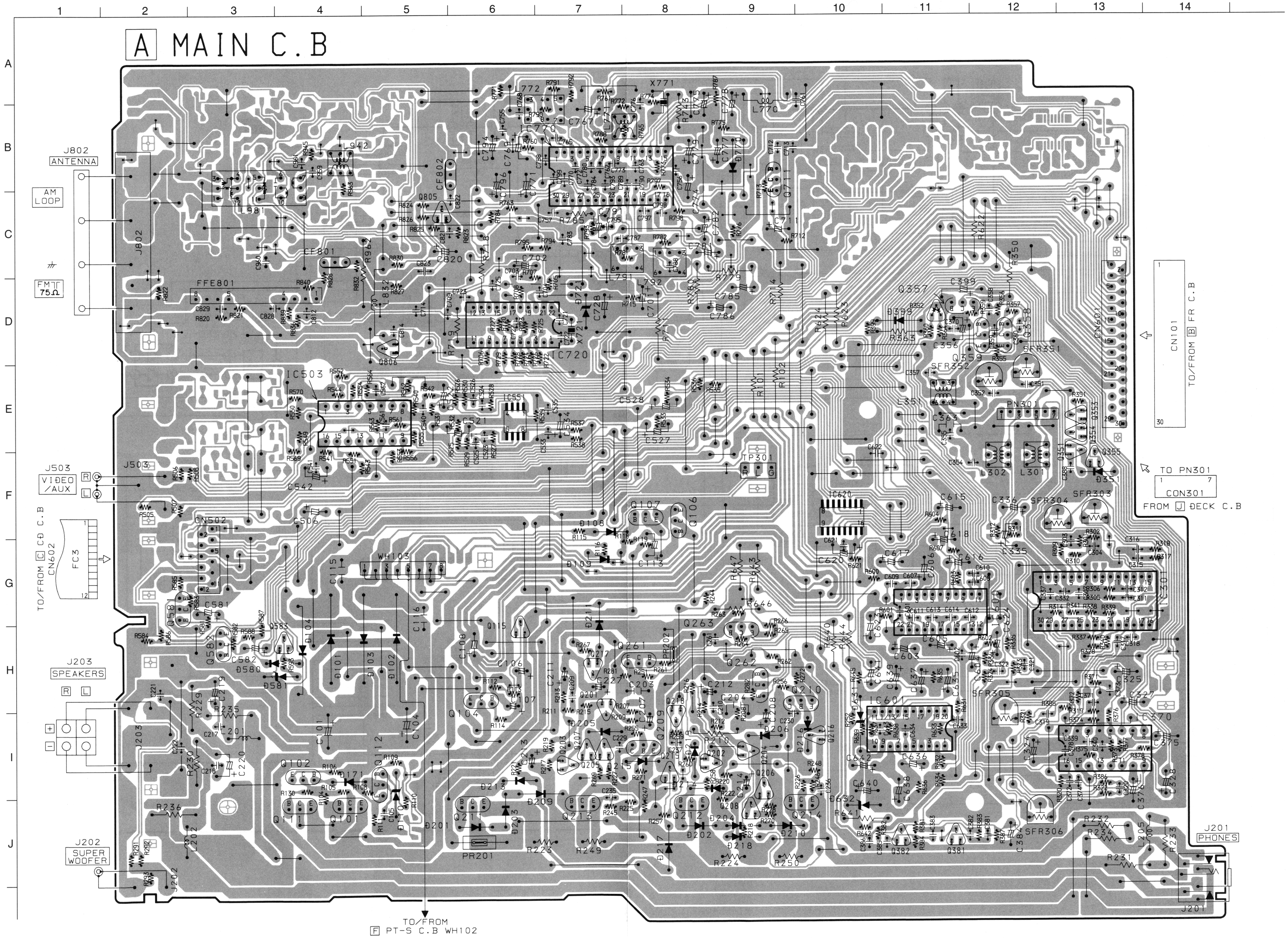
2SB1370
2SB1481
2SD2241

BLOCK DIAGRAM-1

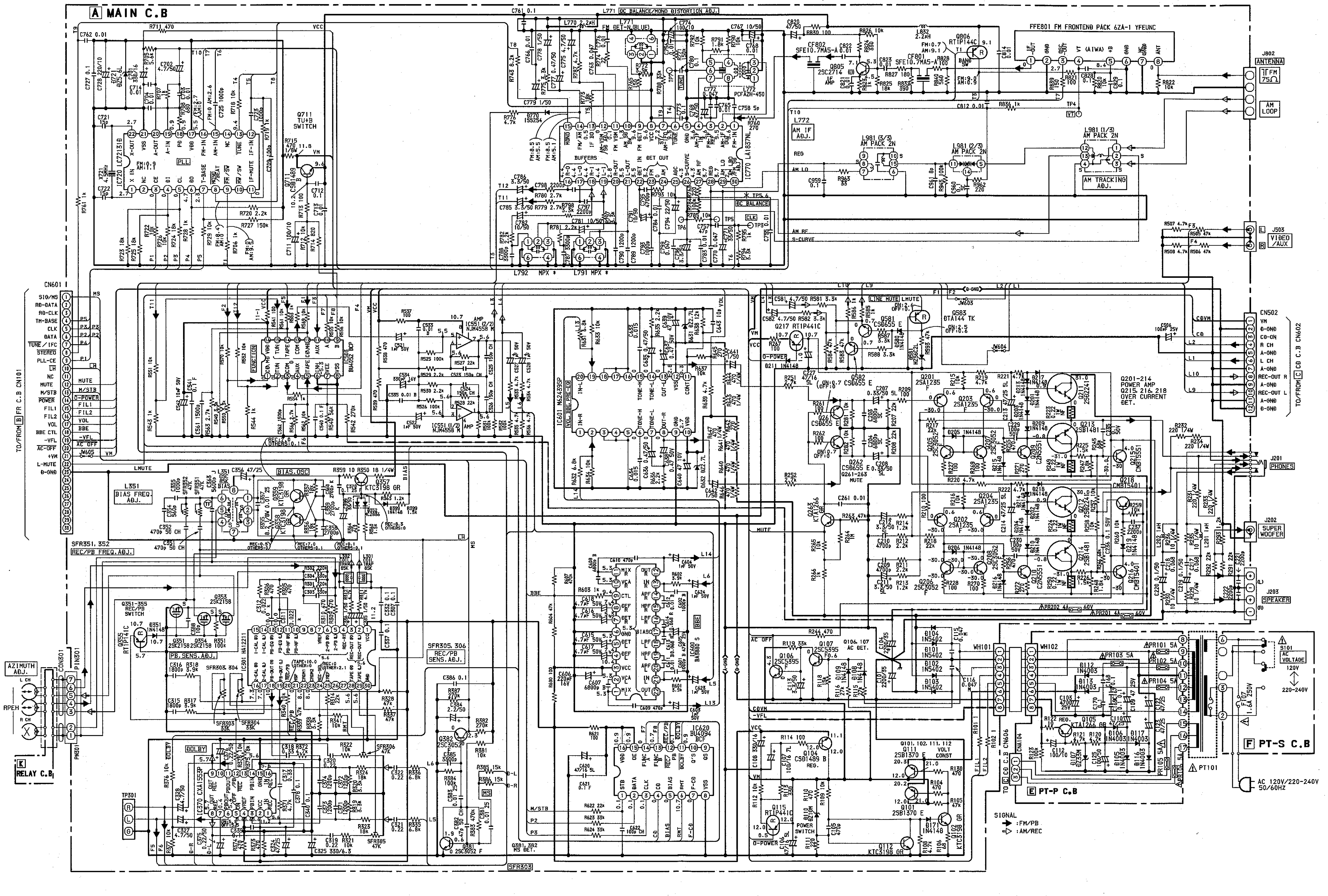

G MD C.B
C CD C.B
CON604
CON605
FILTER
ATT
FILTER
MD5V
REG
M CD MOTOR C.B
M1 LOADING MOTOR
IC10 MOTOR DRIVER
OPEN
CLOSE
CD SW
BRF
CDCK
COIN
SQOUT
RWC
WRQ
CN6
IC6 REG
REG SW
CD ON
L DRIVE C.B
SW1 INSIDE (LIMIT SW)
M21 SLED MOTOR
M20 SPINDLE MOTOR
CN3
IC2 LC78622 DSP
IC1 LA9241M ASP
IC4 TA2092 MOTOR DRIVER
PICK UP KSS-213F
FOCUS COIL
TRACKING COIL
J DECK C.B
M1 DECK MOTOR
IC1 AUTO STOP LEVEL
SFR1
IC601 NJM4558
CD/MD SEL
Q611, 661
B FR C.B
CN401
DRIVER Q461
DRIVER Q462, 463
MOTOR
CN603
CN101
CN4
CN102
CN602
CN502
FL301
FL
KEY SCAN
Q505, 506 SOUT LEVEL SIFT
Q503, 504 ACLK LEVEL SIFT
Q501, 502 MREQ LEVEL SIFT
IC201 LC866560W -5H34
N-CH OPEN DRAIN SYSTEM CONTROL
OSC L201
Q240 RST
Q156 SW
IC151 BU2092F LED DRIVER
D KEY C.B
S326-331 KEY MATRIX
S301-311 KEY MATRIX
S321-325 KEY MATRIX
VOL LEVEL
ROTARY ENCODER
ROTARY ENCODER
MULTI JOG
IC231
Q242 R246-250 REG
BBE LEVEL Q131 Q132
A MAIN C.B
Q351-355 REC/PB SW
Q358 Q359 BIAS OSC
L351
Q357 BIAS SW
IC301 HA12211 REC/PB AMP
SFR303 SFR304
SFR351 SFR352
SFR305 SFR306
IC370 CXA1553P
DOLBY NR
Q381 Q382 MS DET
PN301
E.H
RCH
LCH
RPEH
J802 ANTENNA
FFE801 FM PACK
AM LOOP
MW/LW LOOP
Q806 FM SW
FM DECORDER
IC770 LA1837
IC720 LC72131
Q852 MS/SIG SEL.
IC850 BU1920
Q851 IF LEVEL
EZ MODEL
Q711 TU SW
IC503 BU4052
IC551 NJM4558M
IC600 BBE
J503 VIDEO /AUX
J202 SUPER WOOFER
J203 SPEAKERS
CN101
CN601
LINE MUTE Q581(Q582) Q583
REG +2.5V
REG -2.5V
IC601 VOL. BBE PRE EQ
M62439 PRESET EQ
Q217 SW
Q261(Q262) MUTE Q263
Q201 (Q202) Q203 (Q204) Q205 (Q206) Q207 (Q208) Q209 (Q210)
Q211 (Q212) Q213 (Q214)
OVER CURRENT DET Q215, 218 (Q216)
J201 H.P. JACK
IC620 BU4094
Q104 REG Vcc
Q115 SW
Q101, 102 Q111, 112 REG VM
D101 D102 D103 D104
AC DET Q106, 107
WH101
WH102
F-CABLE BP
Q105 REG -VFL
CNA104
PT101
E PT-S C.B
F PT-P C.B
EZ MODEL
F107
T102 AC230V 50Hz
S101 AC VOLTAGE 120V 220V 240V
AC120V/220-240V 50/60Hz
F PT-P C.B
LH MODEL

BLOCK DIAGRAM-2

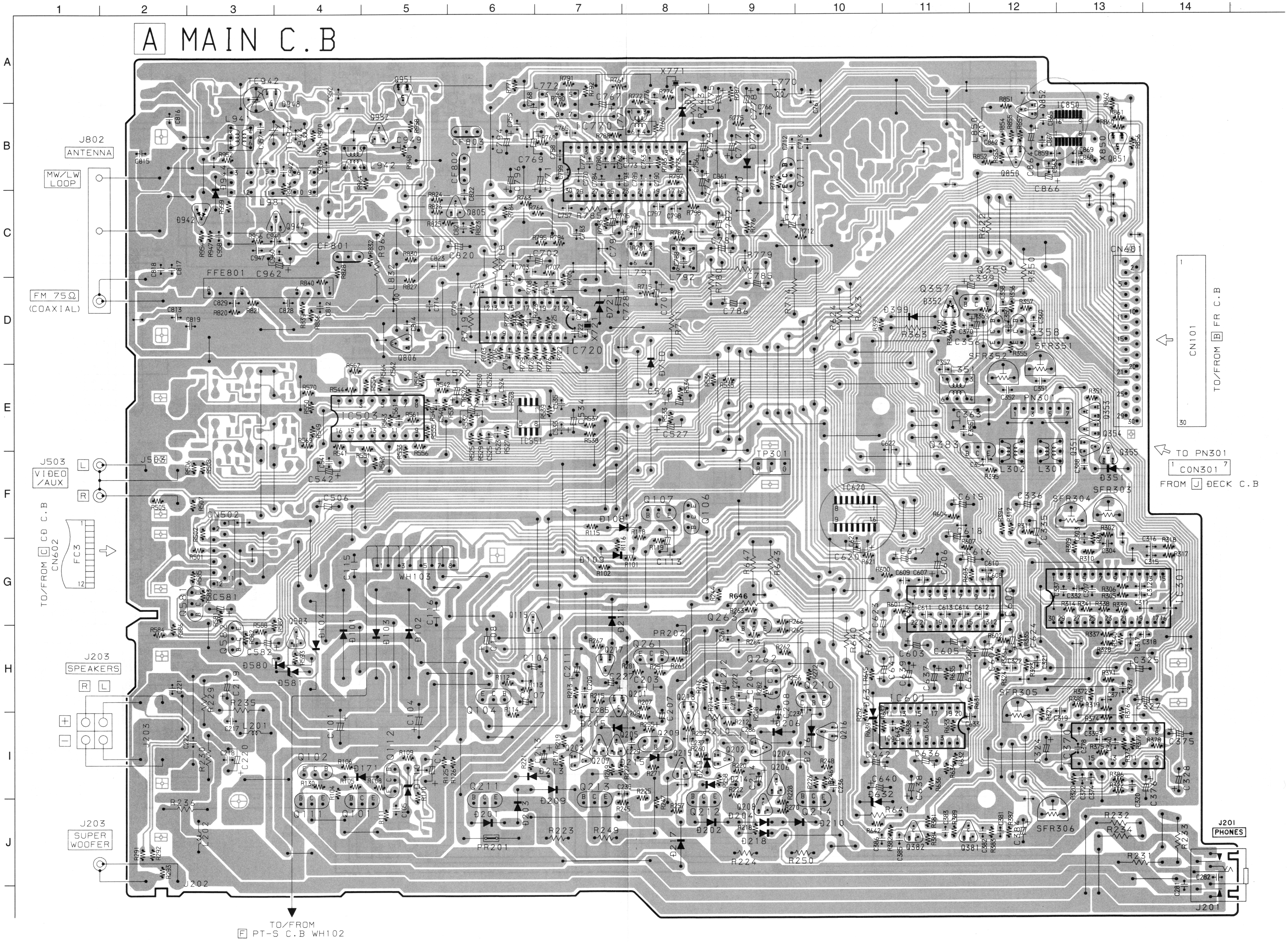

G MD C.B
KMS-260 PICK-UP ASSY
CN100
I J A B C D E F
F-PD
VCC
MOD
FOCUS COIL
TRACKING COIL
Q102, 103 LD DRIVE
Q101, D101 MOD CONTROL
OPMUTE
MOD
IC100 CXA2523AR RF AMP
RF AMP
AGC, EQ
PEAK, BOTTOM DETECTOR
3T DETECTOR
ABCD AMP
IV AMP
APC
MUX
FE AMP
ADIP AMP
TE/SE AMP
CPU COMMAND I/F
DTRF CKRF XLRF
PEAK BOTM ABCD FE AUX ADFG SE TE
R116~118 C112, 123
LPF
IC200 CXD2652AR DSP
X200 22.5792MHz
FS256 LRCK XBCK
CLOCK GENERATOR
EACH BLOCK
PLL
EFM/ACIRC ENCODER/DECODER
EFM RF ADFG SPFD SPRD
ADIP DECODER
SPINDLE SERVO
SHOCK RESISTANT MEMORY CONTROLLER
ATRAC ENCODER/DECODER
SAMPLING RATE CONVERTER
DIGITAL AUDIO I/F
SUBCODE PROCESS
ANALOG MUX
A/D CONVERTER
SERVO DSP
EACH BLOCK
PWM GENERATOR
AUTO SEQUENCER
CPU I/F
MONITOR CONTROL
XINT TX ADDT DADT DIN DOUT DQSY SQSY
FFDR FRDR TFDR TRDR SFDR SRDR
XRST XLAT SWDT SCLT SRDT SENS
MNT0 MNT1 MNT2 MNT3
RECP
IC301 HM51W4400BS 4M D-RAM
RAS CAS WE OE
IC500 AK4512VF A-D, D-A CONVERTER
A/D D/A
ARST DENF
IC501 NJM2100V REC AMP
CN600
DIN DOUT AINL (REC) AINR (REC) AOUTL (PB) AOUTR (PB) AMUTE +5V
TO C CD C.B CN604
IC600 NJU7221U30 3V REG RF AMP DSP
IC601 NJU7221U35 3.5V REG μ-CON
IC603 NJU7221U30 3V REG AUDIO
IC602 NJU7221U33 3.3V REG LD MOD
OUT IN NB
IC400 BA5970FP MOTOR DRIVER
R411, 412, C413, 414
R403, 404, C407, 408
LPF
MUTE1 MUTE2
DRV MUTE
I MECHA C.B
CON400
SPINDLE MOTOR
SLED MOTOR
LIMIT SW SW401
REFLEX SW SW400-1
SW400-2 (DISCPROTOCT SW)
LS RFLCT DISCPRO
IC401 BA6417F LOADING MOTOR DRIVER
Q402 LOADING SPEED CONT
SLOW
VREF OUT1 FIN RIN
LOAD EJECT
CON451
LOADING MOTOR M451
LOADING SW SW452
REC SW SW451
H LOAD C.B
LDSW RECSW
CN201
OVERWRITE HEAD ASSY
IC203 BD7910FV OVERWRITE HEAD DRIVER
VOS2 VOD2 VOS1 VOD1 EFM MUTE
DRIVE
IC300 CXP81952 MICRO-CONTROLLER
OPMUTE MOD RECP SCLK SWDT SRDT SENS MNT0 MNT1 MNT2 MNT3 XRST XLAT TX SQSY XINT DQSY
DRVMUTE LS RFLCT DISCPRO SLOW LOAD EJECT LDSW RECSW
DENF ARST AMUTE ACLK SOUT SIN ARDY SRST MREQ EXTDIN SREQ
DRIVER ESK EDO EDI ECS XTALO XTALI TEMP
IC303 AK93C45AF E2PROM
SK DI DO CS
X301 12MHz
IC304 S-8110AMP TEMPERATURE SENSOR
OUT
CN300
SRST SREQ MREQ ARDY SIN SOUT ACLK EXTDIN
TO C CD C.B CN605


A MAIN C.B
J802
ANTENNA
AM
LOOP
FM
75Ω
J503
VIDEO
/AUX
R
L
TO/FROM C CD C.B
CN602
FC3
J203
SPEAKERS
R
L
J202
SUPER
WOOFER
TO/FROM
F PT-S C.B WH102
CN101
TO/FROM B FR C.B
TO PN301
CON301
FROM J DECK C.B
J201
PHONES
IC503
IC551
IC620
IC601
IC600
IC301
IC370
IC720
IC770
CN601
CN502
WH103
TP301
PN301

SCHEMATIC DIAGRAM-1 (MAIN: LH)


A MAIN C.B
FFE801 FM FRONTEND PACK 6ZA-1 YFEUNC
J802 ANTENNA
FM 75Ω
AM LOOP
DC BALANCE/MONO DISTORTION ADJ.
FM DET-N (BLUE)
IC770 LA1837NL
IC720 LC72131B
Q711 TU+B SWITCH
AM IF ADJ.
L981 (3/3) AM PACK 2N
L981 (2/3) AM PACK 2N
L981 (1/3) AM PACK 2N
AM TRACKING ADJ.
DC BALANCE
J503 VIDEO/AUX
CN601
TO/FROM B FR C.B CN101
CN502
TO/FROM C CD C.B CN602
IC551 NJM4558 AMP
IC502 BU4052BCP
IC601 M62439SP
VOL BBE PRE-EQ
LINE MUTE
Q201-214 POWER AMP
Q215,216,218 OVER CURRENT DET.
J201 PHONES
J202 SUPER WOOFER
J203 SPEAKER
L351 BIAS FREQ. ADJ.
BIAS.OSC
SFR351, 352 REC/PB FREQ.ADJ.
Q351-355 REC/PB SWITCH
PB. SENS. ADJ.
IC301 HA12211
SFR305, 306 REC/PB SENS. ADJ.
IC640 BA3880S
BBE
IC620 BU4094BCF
AZIMUTH ADJ.
RPEH
K RELAY C.B
DOLBY
IC370 CXA1553P
TP301
WH101
WH102
E PT-P C.B
F PT-S C.B
S101 AC VOLTAGE 120V 220-240V
F107 1.6A 250V
PT101
AC 120V/220-240V 50/60HZ
SIGNAL
:FM/PB
:AM/REC

WIRING-2 (MAIN: EZ)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A
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C
D
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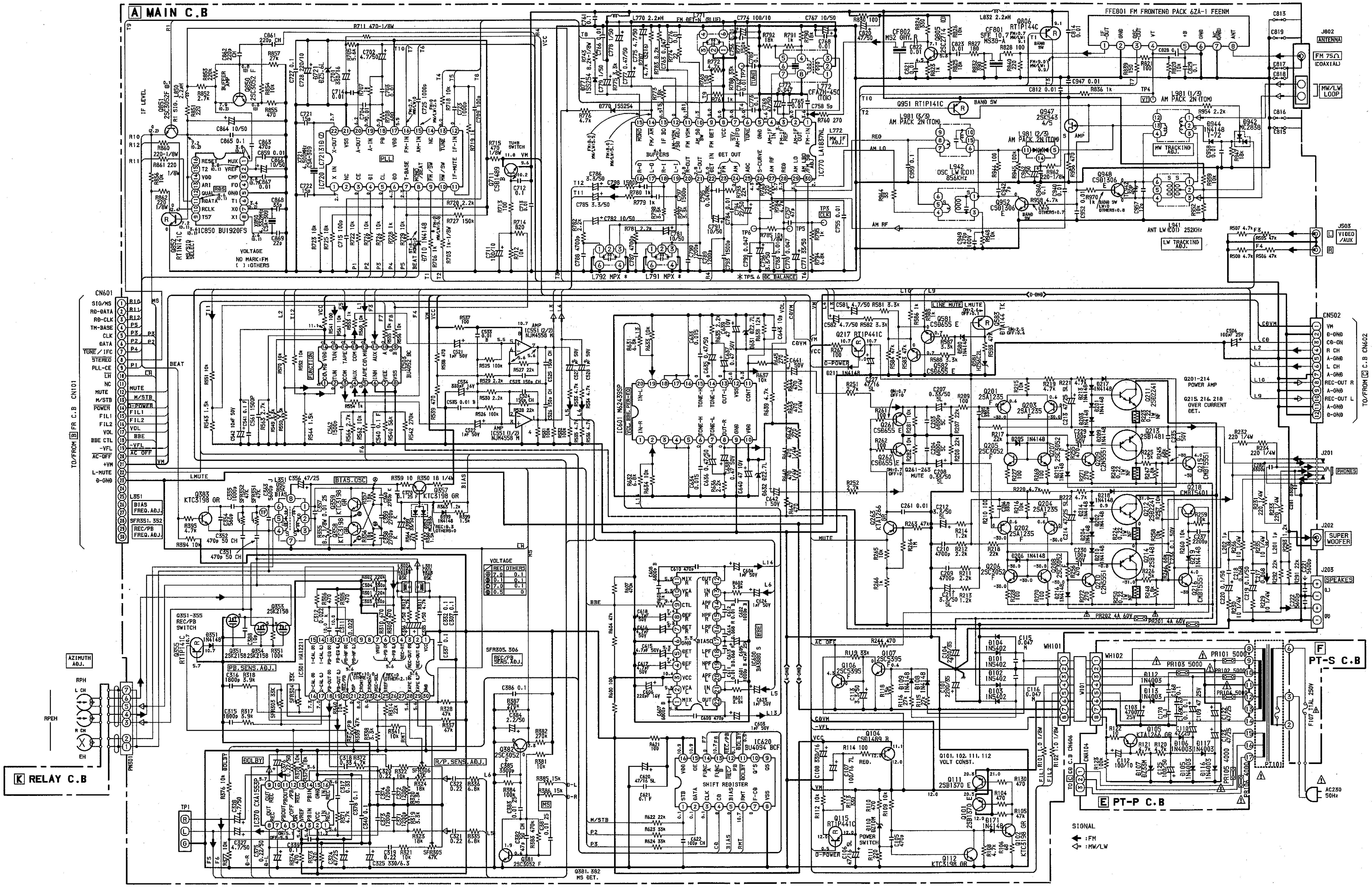
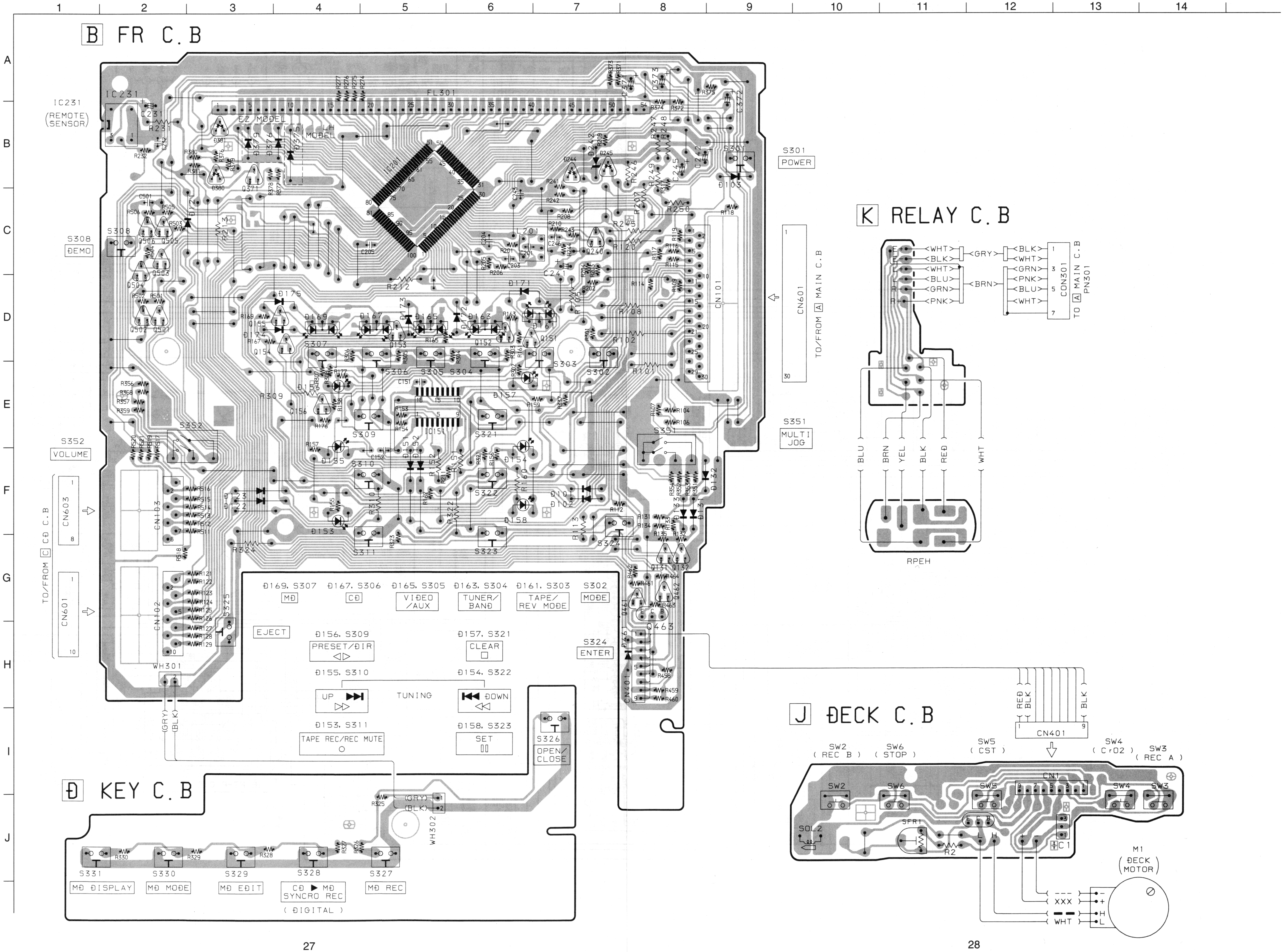
F
G
H
I
J
A MAIN C.B
J802
ANTENNA
MW/LW
LOOP
FM 75Ω
(COAXIAL)
J503
VIDEO
/AUX
L
R
TO/FROM C CD C.B
CN602
FC3
J203
SPEAKERS
R L
+
−
J203
SUPER
WOOFER
TO/FROM
F PT-S C.B WH102
CN101
TO/FROM B FR C.B
TO PN301
CON301
FROM J DECK C.B
J201
PHONES
CN601
IC942
IC941
IC770
IC720
IC503
IC551
IC620
IC601
IC301
IC850
X771
X850
FFE801
CF801
CF802
CF803
TP301
PR201
PR202
WH103
CN502
PN301
L301
L302
SFR303
SFR304
SFR305
SFR306
SFR351
SFR352

SCHEMATIC DIAGRAM-2 (MAIN: EZ)



A MAIN C.B
FFE801 FM FRONTEND PACK 6ZA-1 FEENM
J802 ANTENNA
FM 75Ω (COAXIAL)
MW/LW LOOP
IC850 BU1920FS
IC720 LC72131D
PLL
IC770 LA1837NL
L981 (1/3) AM PACK 2N (TOM)
L981 (2/3) AM PACK 2N (TOM)
L981 (3/3) AM PACK 2N (TOM)
MW TRACKING ADJ.
LW TRACKING ADJ.
L942 OSC LW (COI) 856KHz
L941 ANT LW (COI) 252KHz
J503 VIDEO /AUX
CN601
TO/FROM B FR C.B CN101
CN502
TO/FROM C C.B CN602
IC551 (1/2) NJM4558 M
IC551 (2/2) NJM4558 M
IC601 M62435SP
LINE MUTE
Q201-214 POWER AMP
Q215, 216, 218 OVER CURRENT DET.
J201 PHONES
J202 SUPER WOOFER
J203 SPEAKERS
BIAS OSC
BIAS FREQ. ADJ.
REC/PB FREQ. ADJ.
VOLTAGE
Q351-355 REC/PB SWITCH
AZIMUTH ADJ.
RPH
RPEH
K RELAY C.B
IC501 HA12211
PB. SENS. ADJ.
REC/PB SENS. ADJ.
IC370 CXA1553P
DOLBY
R/P. SENS. ADJ.
Q381, 382 MS DET.
IC630 BA3880 S
IC620 BU4094 BCF
SHIFT REGISTER
Q101, 102, 111, 112 VOLT CONST.
POWER SWITCH
WH101
WH102
F PT-S C.B
E PT-P C.B
PT101
AC250 50Hz
SIGNAL
:FM
:MW/LW

WIRING-3 (FRONT)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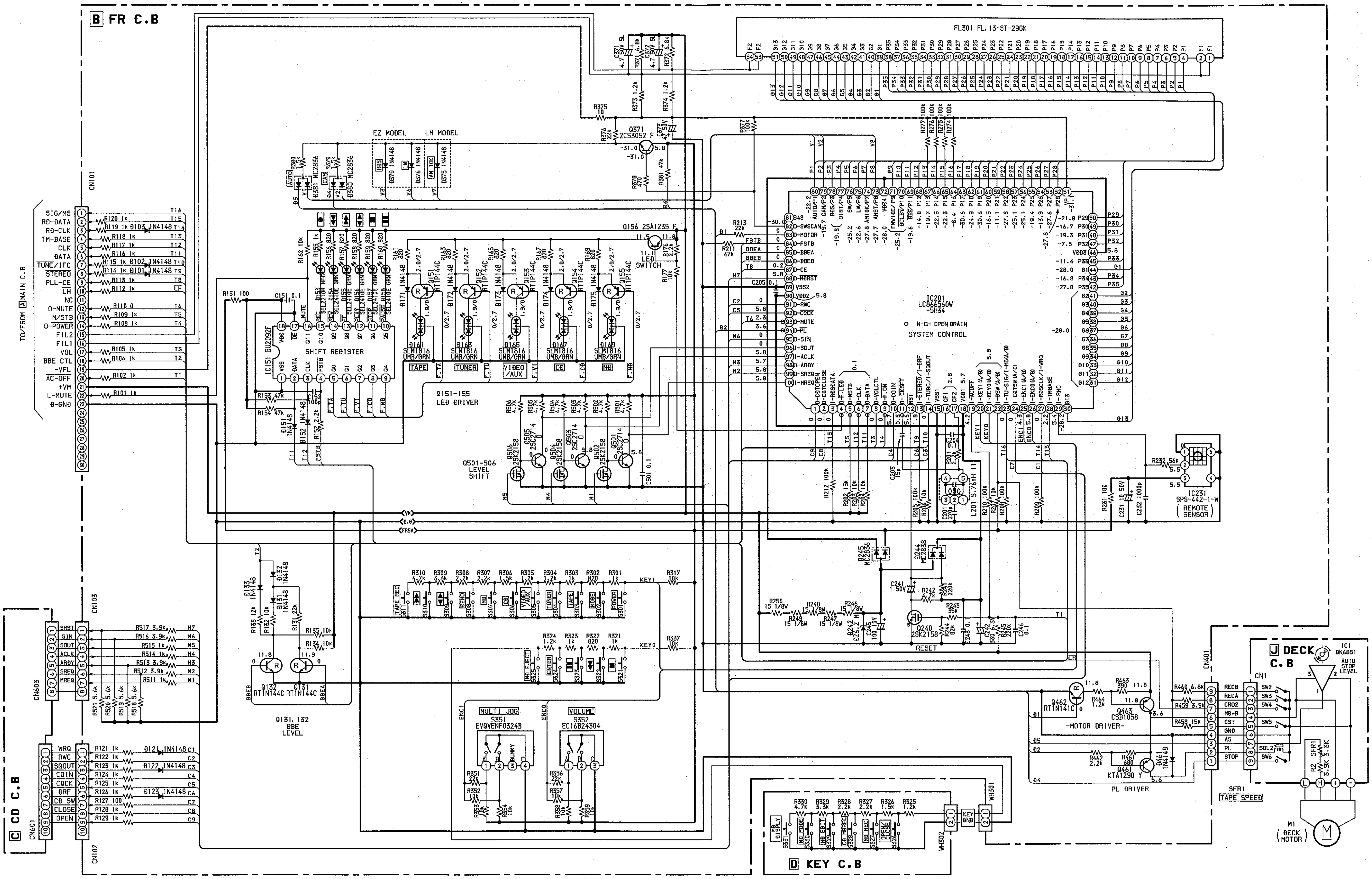
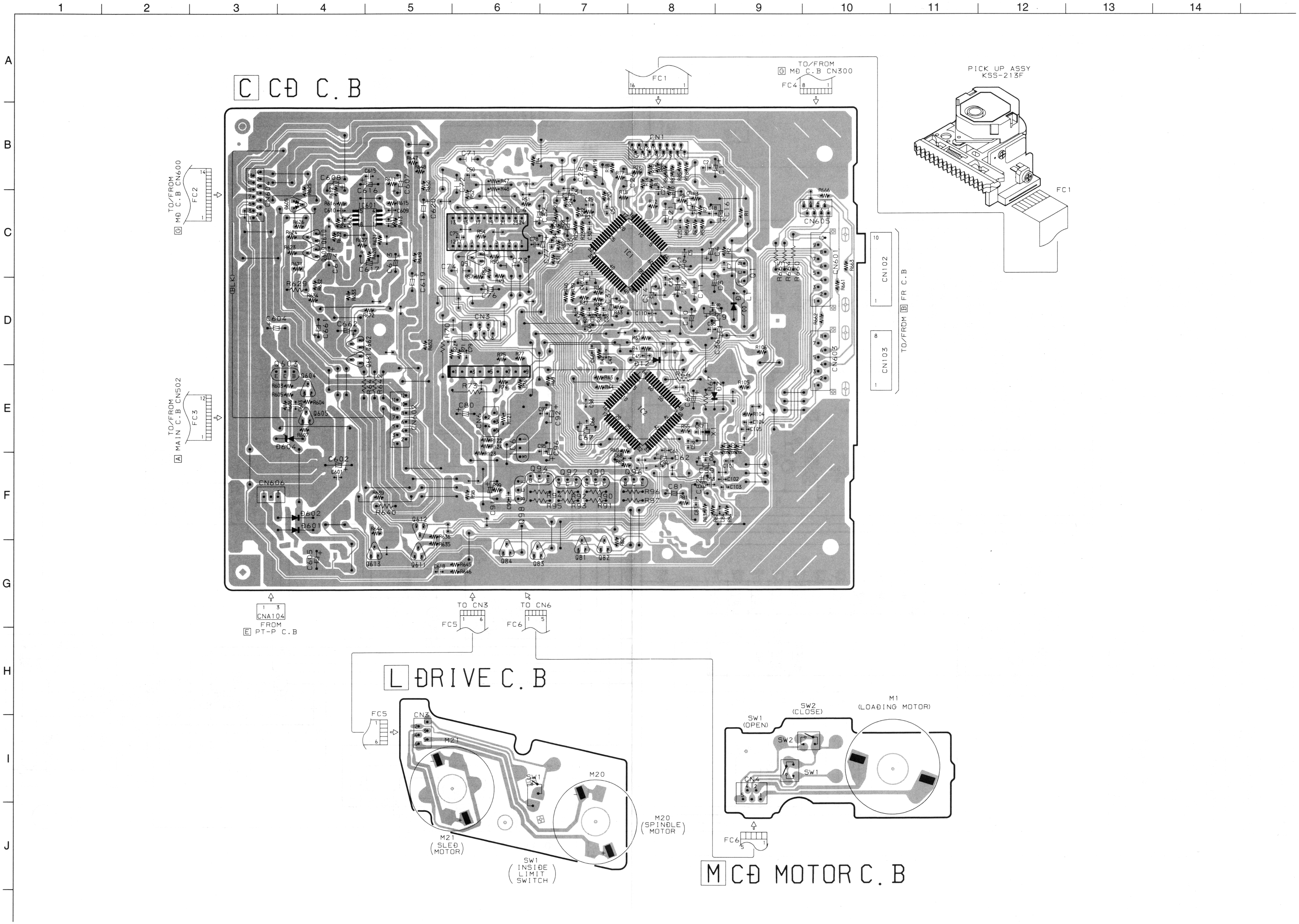
I
J
B FR C.B
IC231
(REMOTE SENSOR)
FL301
IC201
EZ MODEL
LH MODEL
S308
DEMO
S301
POWER
S351
MULTI JOG
S352
VOLUME
CN601
TO/FROM A MAIN C.B
CN101
CN103
CN102
CN603
TO/FROM C CD C.B
IC151
WH301
WH302
CN401
Đ169, S307
MD
Đ167, S306
CD
Đ165, S305
VIDEO /AUX
Đ163, S304
TUNER/ BAND
Đ161, S303
TAPE/ REV MODE
S302
MODE
EJECT
Đ156, S309
PRESET/DIR
Đ157, S321
CLEAR
S324
ENTER
Đ155, S310
Đ154, S322
UP
TUNING
DOWN
Đ153, S311
TAPE REC/REC MUTE
Đ158, S323
SET
S326
OPEN/ CLOSE
(GRY)
(BLK)
Đ KEY C.B
S331
MD DISPLAY
S330
MD MODE
S329
MD EDIT
S328
CD ▶ MD SYNCRO REC
(DIGITAL)
S327
MD REC
K RELAY C.B
WHT
BLK
GRN
BLU
PNK
GRY
BRN
CON301
TO A MAIN C.B PN301
BLU
BRN
YEL
BLK
RED
WHT
RPEH
J DECK C.B
RED
BLK
CN401
SW2 (REC B)
SW6 (STOP)
SW5 (CST)
SW4 (CrO2)
SW3 (REC A)
CN1
SOL2
SFR1
R2
C1
M1 (DECK MOTOR)
XXX
WHT

SCHEMATIC DIAGRAM-3 (FRONT)



B FR C.B
C CD C.B
D KEY C.B
J DECK C.B
FL301 FL 13-ST-290K
IC201 LC866540W -5E34
O N-CH OPEN DRAIN
SYSTEM CONTROL
IC151 BU2092F
SHIFT REGISTER
Q151-155 LED DRIVER
Q501-506 LEVEL SHIFT
Q131, 132 BBE LEVEL
Q156 2SA1235 F
LED SWITCH
Q371 2CS3052 F
EZ MODEL
LH MODEL
IC231 SPS-442-1-W (REMOTE SENSOR)
Q240 2SK2158
RESET
-MOTOR DRIVER-
PL DRIVER
Q462 RT1N141C
Q463 CSB1058
Q461 KTA1298 Y
IC1 DN6851
AUTO STOP LEVEL
SFR1 TAPE SPEED
M1 (DECK MOTOR)
MULTI JOG S351 EVQVENF0324B
VOLUME S352 EC16B24304
CN101
CN102
CN103
CN401
CN601
CN603
WH301
WH302
TO/FROM A MAIN C.B
SIG/MS
RD-DATA
RD-CLK
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
PLL-CE
LH
NC
O-MUTE
M/STB
O-POWER
FIL2
FIL1
VOL
BBE CTL
-VFL
AC-OFF
+VM
L-MUTE
D-GND
SRST
SIN
SOUT
ACLK
ARDY
SREQ
MREQ
WRQ
RWC
SQOUT
COIN
CQCK
DRF
CD SW
CLOSE
OPEN
TAPE
TUNER
VIDEO /AUX
CD
MD
TAPE REC
DEMO
MD
CD
V/AUX
TUNER
TAPE
MODE
POWER
MD EJECT
ENTER
MD PLAY
MD MODE
MD EDIT
CD MDREC
MD REC
OPEN CLOSE
KEY GND
KEY1
KEY0
RECB
RECA
CRO2
MD+B
CST
GND
AS
PL
STOP
SW2
SW3
SW4
SW5
SOL2
SW6

WIRING-4 (CD)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G
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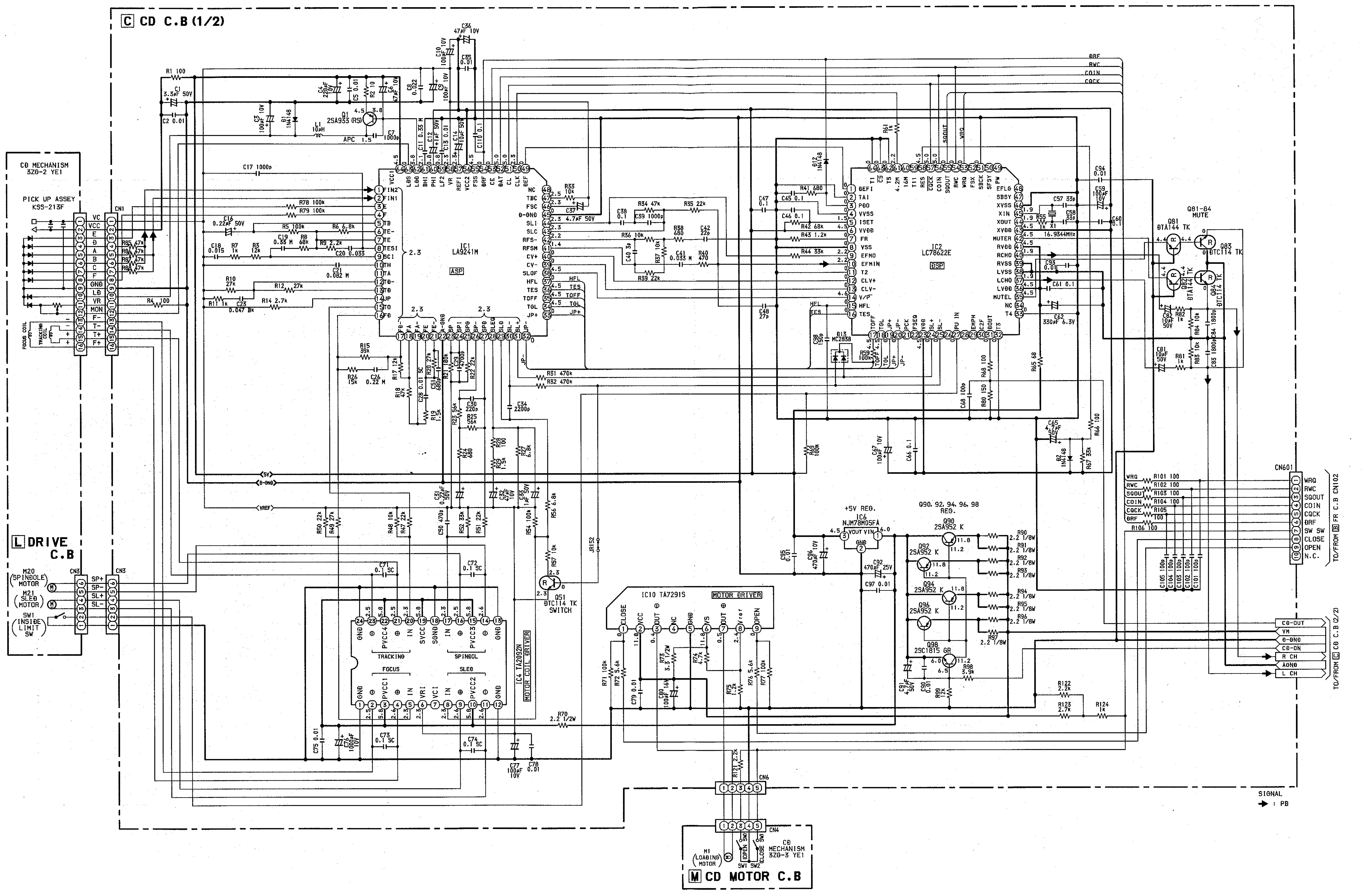
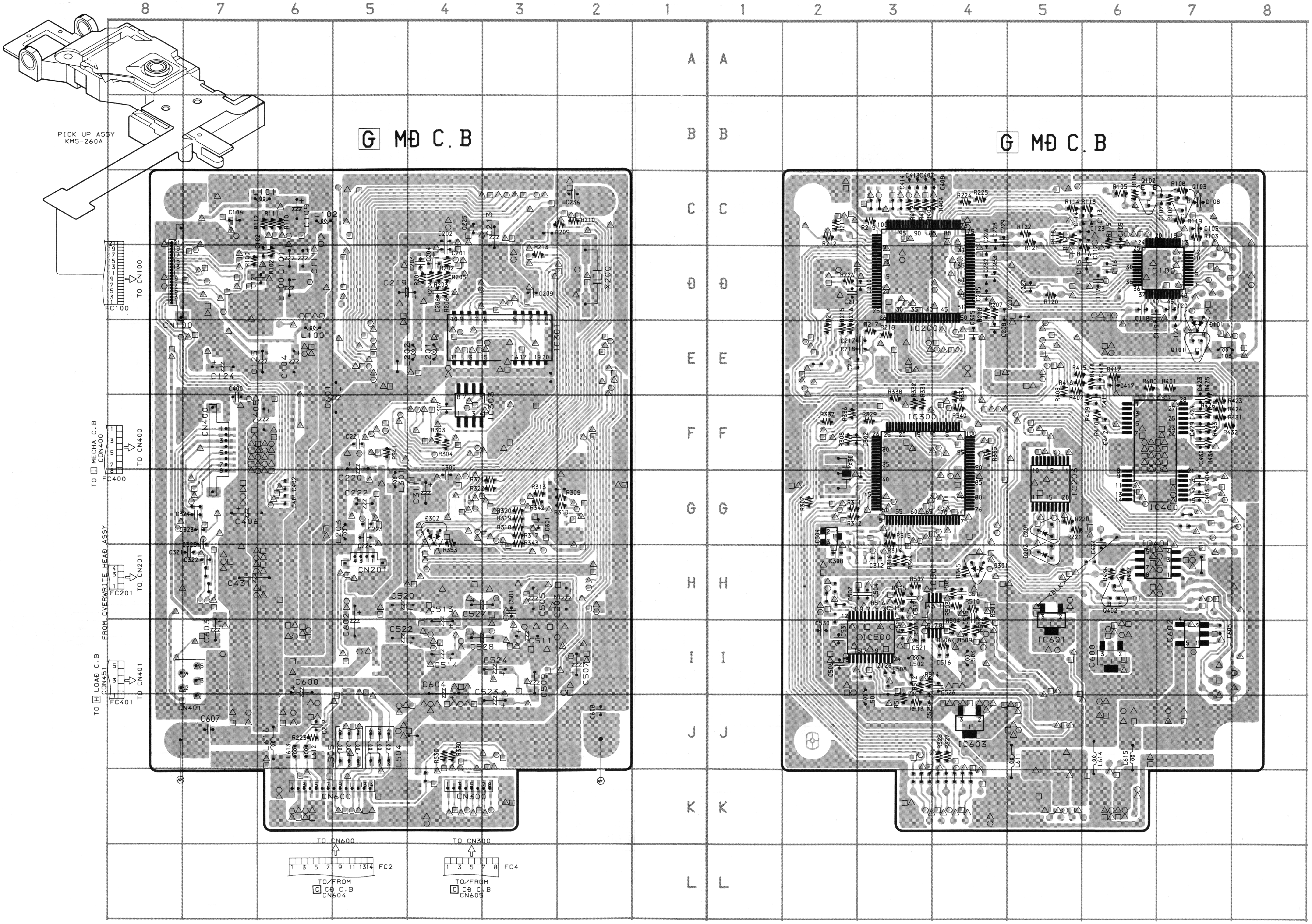
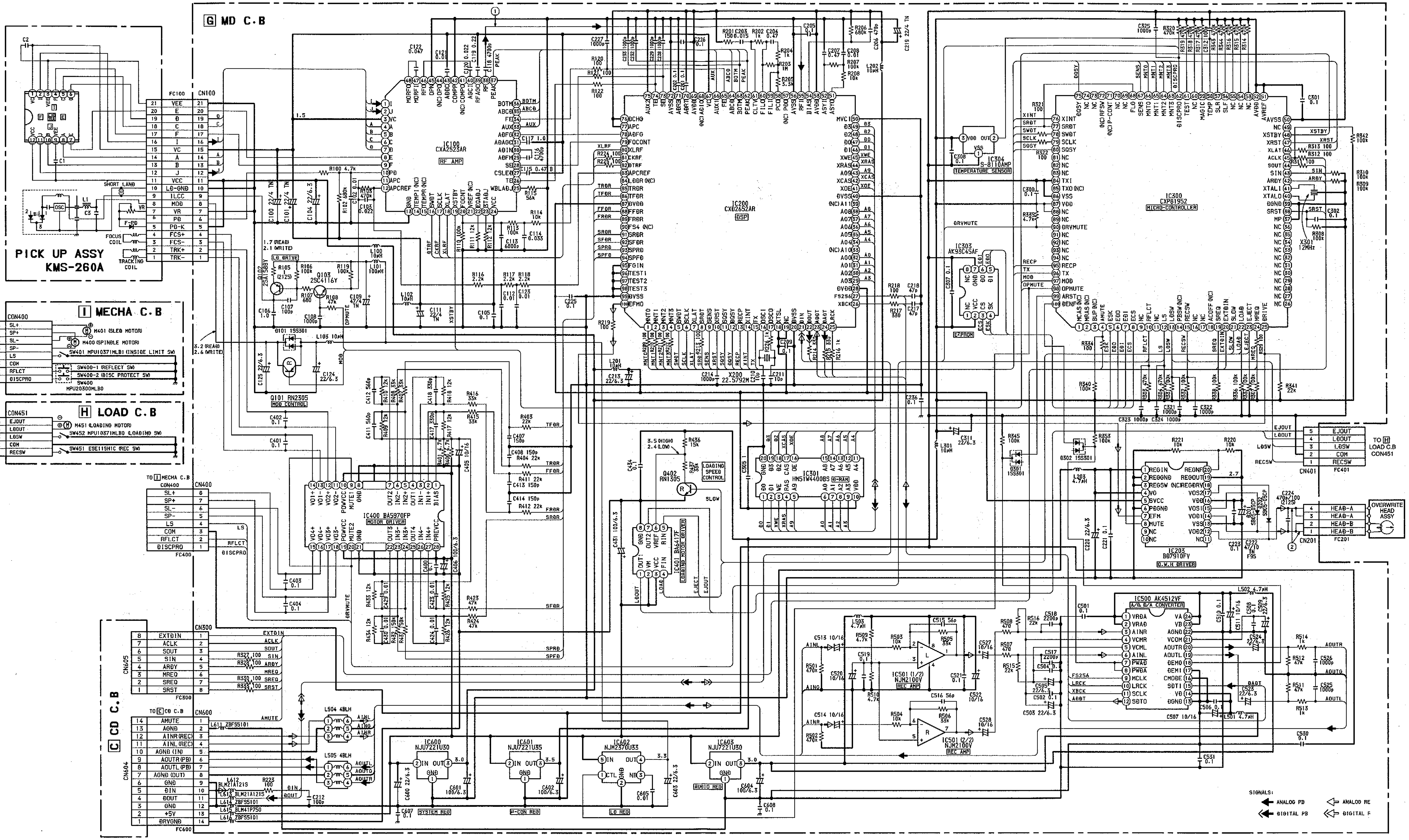
I
J
C CD C.B
FC1
16
1
TO/FROM
G MD C.B CN300
FC4
8
1
PICK UP ASSY
KSS-213F
FC1
TO/FROM
G MD C.B CN600
FC2
14
1
TO/FROM
A MAIN C.B CN502
FC3
12
1
(BLK)
CN1
IC1
IC2
IC4
CN3
CN6
CN601
CN602
CN603
CN605
CN606
CN102
CN103
TO/FROM B FR C.B
1
3
CNA104
FROM
E PT-P C.B
TO CN3
FC5
1
6
TO CN6
FC6
1
5
L DRIVE C.B
FC5
CN3
M21
M20
SW1
M21
(SLED
MOTOR)
SW1
(INSIDE
LIMIT
SWITCH)
M20
(SPINDLE
MOTOR)
SW1
(OPEN)
SW2
(CLOSE)
M1
(LOADING MOTOR)
SW2
SW1
CN4
FC6
5
1
M CD MOTOR C.B

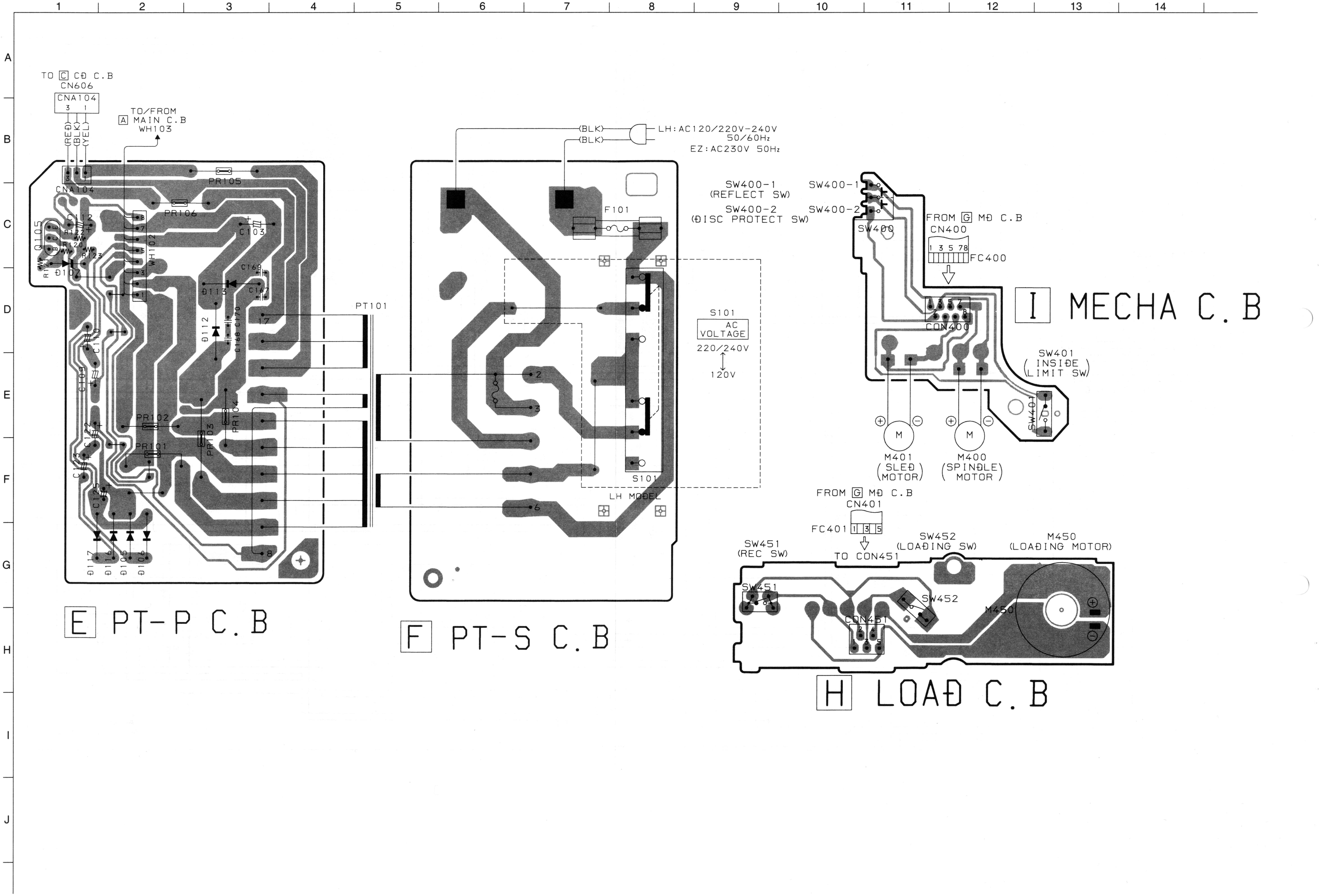
SCHEMATIC DIAGRAM-4 (CD)


C CD C.B (1/2)
CD MECHANISM 3ZG-2 YE1
PICK UP ASSEY KSS-213F
FOCUS COIL
TRACKING COIL
CN1
IC1 LA9241M
ASP
IC2 LC78622E
DSP
IC4 TA2092N
MOTOR COIL DRIVER
TRACKING
FOCUS
SPINDOL
SLED
Q1 2SA933 (RS)
Q51 DTC114 TK SWITCH
IC10 TA7291S
MOTOR DRIVER
+5V REG.
IC6 NJM78M05FA
Q90, 92, 94, 96, 98 REG.
Q90 2SA952 K
Q92 2SA952 K
Q94 2SA952 K
Q96 2SA952 K
Q98 2SC1815 GR
Q81~84 MUTE
Q81 DTA144 TK
Q82 DTA144 TK
Q83 DTC114 TK
Q84 DTC114 TK
X1 16.9344MHz
L DRIVE C.B
M20 (SPINDOLE) MOTOR
M21 (SLED) MOTOR
SW1 (INSIDE LIMIT SW)
CN3
SP+
SP-
SL+
SL-
CN601
WRQ
RWC
SQOUT
COIN
CQCK
BRF
SW SW
CLOSE
OPEN
N.C.
TO/FROM F FR C.B CN102
CD-OUT
VM
B-GND
CD-ON
R CH
AGND
L CH
TO/FROM C CD C.B (2/2)
CN6
CN4
CD MECHANISM 3ZG-3 YE1
M1 (LOADING) MOTOR
OPEN SW
CLOSE SW
SW1 SW2
M CD MOTOR C.B
SIGNAL
: PB

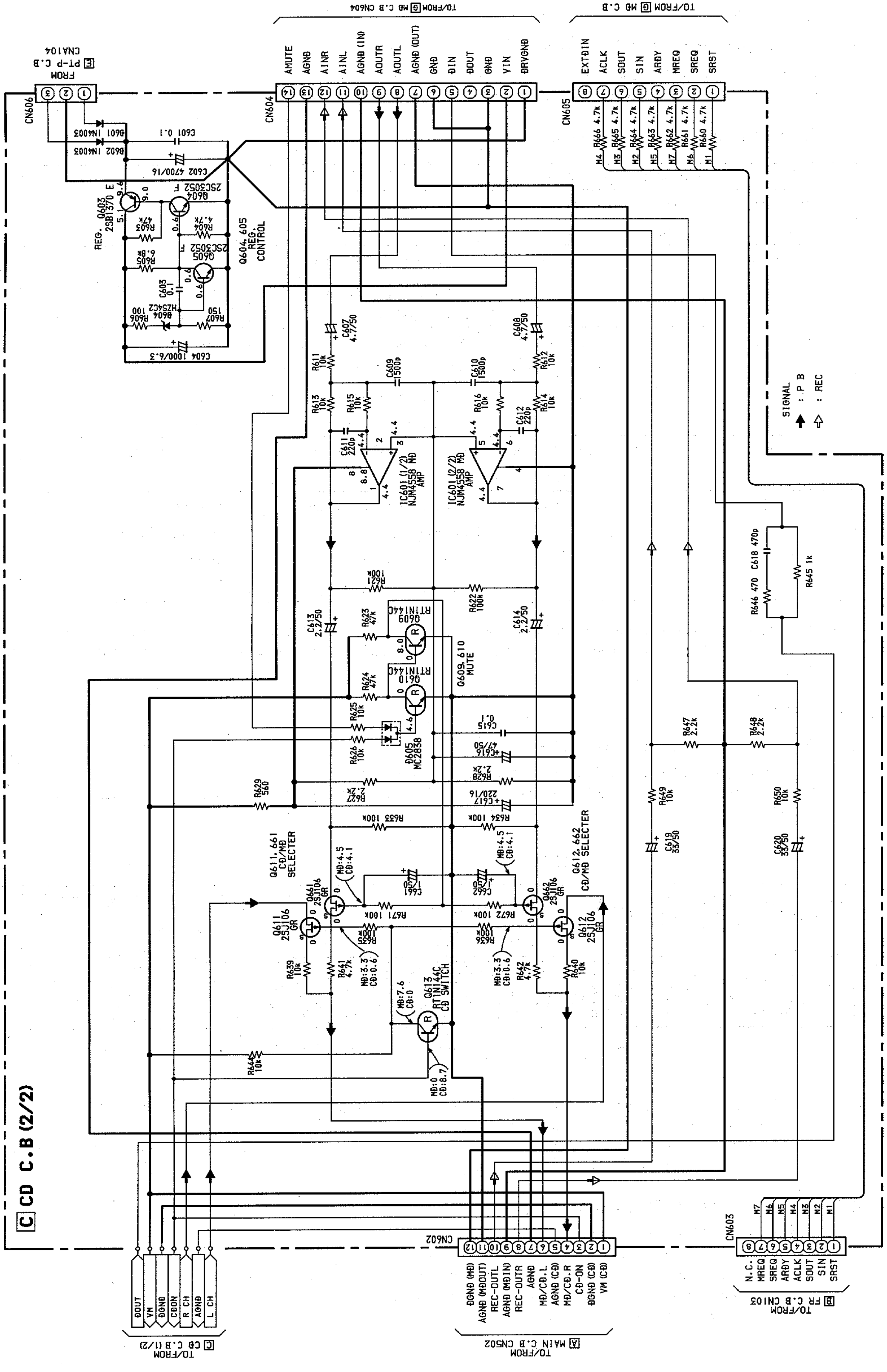

PICK UP ASSY
KMS-260A
G MD C.B
G MD C.B
TO CN100
FC100
CN100
TO I MECHA C.B CON400
TO CN400
FC400
CN400
FROM OVERWRITE HEAD ASSY
TO CN201
FC201
CN201
TO H LOAD C.B CON451
TO CN401
FC401
CN401
TO CN600
FC2
TO/FROM C CD C.B CN604
CN600
TO CN300
FC4
TO/FROM C CD C.B CN605
CN300
IC100
IC200
IC300
IC301
IC303
IC400
IC401
IC500
IC501
IC601
IC602
IC603
IC203
X200
X301
8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8
A B C D E F G H I J K L

SCHEMATIC DIAGRAM-5 (MD)


G MD C.B
PICK UP ASSY
KMS-260A
FC100
CN100
FOCUS COIL
TRACKING COIL
SHORT LAND
I MECHA C.B
FC400
CON400
TO G MD C.B CN400
M401 (SLED MOTOR)
M400 (SPINDLE MOTOR)
SW401 MPU10371MLB1 (INSIDE LIMIT SW)
SW400-1 (REFLECT SW)
SW400-2 (DISC PROTECT SW)
SW400 MPU20300MLB0
H LOAD C.B
FC401
CON451
TO G MD C.B CN401
M451 LOADING MOTOR
SW452 MPU10371MLB0 (LOADING SW)
SW451 ESE11SH1C (REC SW)
TO I MECHA C.B
CN400
C CD C.B
CN605
CN300
FC300
TO C CD C.B
CN604
CN600
FC600
IC100
CXA2523AR
RF AMP
IC200
CXD2652AR
DSP
IC300
CXP81952
MICRO-CONTROLLER
IC304
S-8110AMP
TEMPERATURE SENSOR
IC303
AK93C45AF
EEPROM
IC400 BA5970FP
MOTOR DRIVER
IC401 BA6417F
LOADING MOTOR DRIVER
Q402
RN1305
LOADING SPEED CONTROL
IC301
HM51W4400BS
D-RAM
IC203
BD7910FV
O.W.H DRIVER
X200
22.5792MHz
X301
12MHz
Q101 RN2305
MOD CONTROL
LD DRIVE
Q102 2SA1037K
Q103 2SC4116Y
D101 1SS301
D301 1SS301
D302 1SS301
IC500 AK4512VF
A/D, D/A CONVERTER
IC501 (1/2)
NJM2100V
REC AMP
IC501 (2/2)
NJM2100V
REC AMP
IC600
NJU7221U30
SYSTEM REG
IC601
NJU7221U35
µ-CON REG
IC602
NJU7223U33
LD REG
IC603
NJU7221U30
AUDIO REG
L504 4BLH
L505 4BLH
TO H LOAD C.B CON451
CN401
FC401
OVERWRITE HEAD ASSY
CN201
FC201
HEAD-A
HEAD-B
EJOUT
LDOUT
LDSW
COM
RECSW
EXTDIN
ACLK
SOUT
SIN
ARDY
MREQ
SREQ
SRST
AMUTE
AGND
AINR(REC)
AINL(REC)
AGND (IN)
AOUTR(PB)
AOUTL(PB)
AGND (OUT)
GND
DIN
DOUT
+5V
DRVGND
SL+
SP+
SL-
SP-
LS
RFLCT
DISCPRO
SIGNALS:
ANALOG PB
ANALOG REC
DIGITAL PB
DIGITAL REC


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
TO C CD C.B
CN606
CNA104
3 1
(RED) (BLK) (YEL)
TO/FROM
A MAIN C.B
WH103
CNA104
PR105
PR106
C112
Q105
R122
R120
R123
R110
D107
WH102
C103
C169
D113
C167
D112
C168 C170
C110
C109
C122
C123
C125
PR102
PR101
PR103
PR104
D117 D116 D105 D106
PT101
(BLK)
(BLK)
LH:AC120/220V-240V
50/60Hz
EZ:AC230V 50Hz
F101
S101
AC VOLTAGE
220/240V
120V
S101
LH MODEL
SW400-1
(REFLECT SW)
SW400-2
(DISC PROTECT SW)
SW400-1
SW400-2
SW400
FROM G MD C.B
CN400
1 3 5 7 8
FC400
CON400
SW401
(INSIDE LIMIT SW)
M401
(SLED MOTOR)
M400
(SPINDLE MOTOR)
FROM G MD C.B
CN401
FC401
TO CON451
SW451
(REC SW)
SW452
(LOADING SW)
M450
(LOADING MOTOR)
SW451
SW452
CON451
M450
E PT-P C.B
F PT-S C.B
I MECHA C.B
H LOAD C.B

SCHEMATIC DIAGRAM-6 (INF)


TO/FROM G MD C.B CN604
TO/FROM G MD C.B CN300
FROM E PT-P C.B CNA104
CN606
CN604
CN605
AMUTE
AGND
AINR
AINL
AGND (IN)
AOUTR
AOUTL
AGND (OUT)
GND
DIN
DOUT
GND
VIN
DRVGND
EXTDIN
ACLK
SOUT
SIN
ARDY
MREQ
SREQ
SRST
R666 4.7k
R665 4.7k
R664 4.7k
R663 4.7k
R662 4.7k
R661 4.7k
R660 4.7k
M4
M3
M2
M5
M7
M6
M1
D601 1N4003
D602 1N4003
C601 0.1
C602 4700/16
REG. Q603 2SB1370 E
Q604 2SC3052 F
Q605 2SC3052 F
Q604, 605 REG. CONTROL
R603 47k
R604 4.7k
R605 6.8k
C603 0.1
D604 HZS4C2
R606 100
R607 150
C604 1000/6.3
C607 4.7/50
C608 4.7/50
R611 10k
R612 10k
C609 1500p
C610 1500p
R613 10k
R615 10k
R616 10k
R614 10k
C611 220p
C612 220p
IC601 (1/2) NJM4558 MD AMP
IC601 (2/2) NJM4558 MD AMP
SIGNAL
: P B
: REC
C618 470p
R646 470
R645 1k
R621 100k
R622 100k
C613 2.2/50
C614 2.2/50
R623 47k
Q609 RT1N144C
R624 47k
Q610 RT1N144C
Q609, 610 MUTE
R625 10k
R626 10k
D605 MC2838
C615 0.1
C616 47/50
R628 2.2k
R627 2.2k
C617 220/16
R629 560
R647 2.2k
R648 2.2k
R649 10k
R650 10k
C619 33/50
C620 33/50
R633 100k
R634 100k
Q611, 661 CD/MD SELECTER
Q612, 662 CD/MD SELECTER
MD:4.5 CD:4.1
C661 1/50
C662 1/50
Q661 2SJ106 GR
Q662 2SJ106 GR
R671 100k
R672 100k
Q611 2SJ106 GR
Q612 2SJ106 GR
R635 100k
R636 100k
R639 10k
R641 4.7k
R642 4.7k
R640 10k
MD:3.3 CD:0.6
MD:7.6 CD:0
Q613 RT1N144C CD SWITCH
R644 10k
MD:0 CD:8.7
C CD C.B (2/2)
CN602
CN603
DOUT
VM
DGND
CDON
R CH
AGND
L CH
DGND (MD)
AGND (MDOUT)
REC-OUTL
AGND (MDIN)
REC-OUTR
AGND
MD/CD.L
AGND (CD)
MD/CD.R
CD-ON
DGND (CD)
VM (CD)
N.C.
MREQ
SREQ
ARDY
ACLK
SOUT
SIN
SRST
TO/FROM C CD C.B (1/2)
TO/FROM A MAIN C.B CN502
TO/FROM B FR C.B CN103

TEST MODE

1. CD Test Mode

1-1. How to Start Up the CD Test Mode

While pressing the "CD function" button, connect the AC plug to the power outlet.
When the CD test mode is started up, the message "CD TEST" is displayed.

1-2. Function Description of the Test Mode

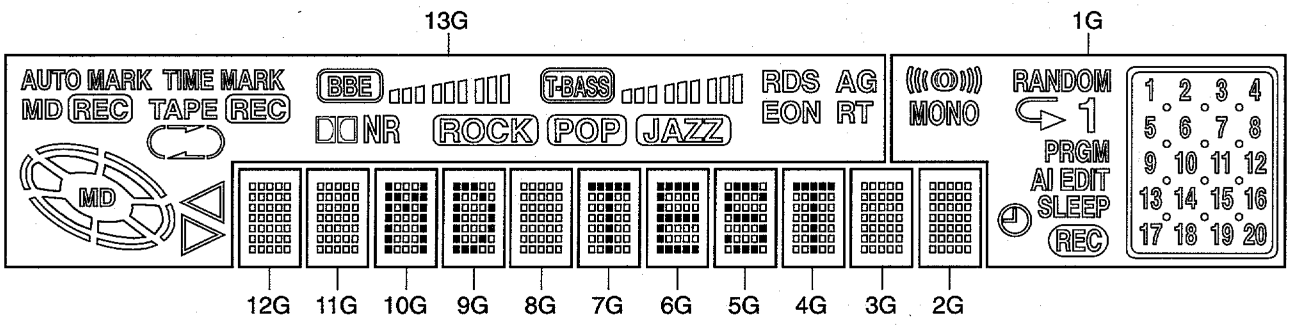
MODE	Operation	Indication on display	Function	Contents
Start mode	Starting up the test mode	CD TEST		
Search mode	■	CD	Continuous focus searching. The pickup lens repeats the full-swing up-down motion * Note	Check AC circuit. Laser current measurement. Focus error waveform check.
Play mode	◀ ▶	Track No. and playing time are displayed	Normal playback. When the TOC reading is not possible, the same movement as in the search mode.	Focus servo. Tracking servo. CLV servo. Sled servo.
Traverse mode	II	Track No. and playing time flash	Playback PAUSE mode	Tracking servo OFF.
Sled mode	▶▶ ◀◀	CD TEST	The pickup moves to the innermost track The pickup moves to the outermost track	Sled servo. Check operation of the mechanism.

Note: If the focus search operation is continued for 10 minutes or longer, heating of the driver IC is accumulated to trigger the protection circuit that will stop operation of the CD system. .Turn off the main power and re-start operation about 10 minutes later.

2. MD Test Mode

2-1. How to Start Up the MD Test Mode

While pressing the "MD function" button, connect the AC plug to the power outlet.
About three seconds later after the MD test mode has started up, the following message appears and the MD test mode becomes operable.



Note:
1. If operation of the mechanism shows any abnormality during the test mode, disconnect the AC plug immediately.
2. The playback and recording operations are not possible during the test mode.
3. There can be a case that a disc cannot be inserted. In such a case, insert the disc a little and press the "CD → MD DIRECT REC" button. The disc can be inserted to the very end.

2-2. How to Exit the CD Test Mode

1) Press the EJECT button to remove the disc.
2) Disconnect the AC plug from the power outlet.
* If the machine exits the MD test mode by any methods other than the procedure as described above, the machine may operate abnormally when the POWER is turned on next time.
In such a case, disconnect the AC plug.

2-3. Operation Check Mode

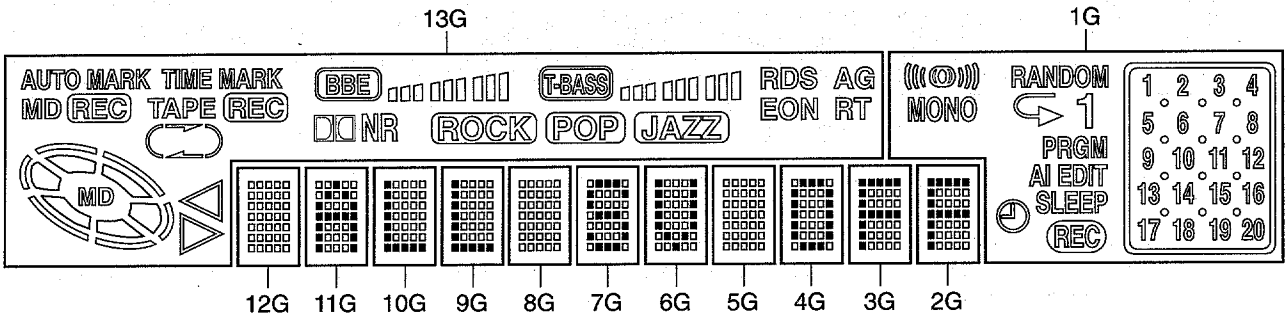
1) Checks after the test mode has started up
The following playback audio circuits can be checked.
- The circuits that can be checked: .... DAC, LINE AMP, HEADPHONES AMP
- Output level: .... 1 kHz, -21 dB

2) Switch status check
ON/OFF statuses of the respective switches of the machine and mechanism can be checked on display.

Switch Name	Switch State	Indication on Display	Usable disc
REC PROTECT	When the write-protection tab of a disc is closed to ON	ROCK	Record/playback disc
REFRECT	When the high reflection disc (CD) is used	POP	Playback only disc
INNER	When the pickup is the positioned at the innermost track (when the LIMIT switch is ON)	JAZZ	—

2-4. How to Switch to Servo Standby Mode

When the MD test mode has been established, the mode is changed to the servo standby mode and "ALL SV OFF" is displayed by pressing the ■ (CLEAR) button. The following various check modes can be entered from this mode. Returns to "ALL SV OFF" by pressing the ■ button.



2-5. Checking the Sled Operation

1) Pickup moves to the outmost track by pressing the ▸▸ (F.SKIP) in the "ALL SV OFF" state. The message "T.SLED FWD" is displayed.
2) Pickup moves to the innermost track by pressing the ◂◂ (B.SKIP) in the "ALL SV OFF" state. The message "T.SLED FWD" is displayed.

2-6. Checking the Laser Output

1) The laser power output level can be switched by every pressing of the "MD EDIT" in the "ALL SV OFF state".
The laser power output is repeatedly changed in the following order of: OFF → LASER READ → LASER1/2 → LASER WRITE → OFF. The displays are shown as described by the following table.

MODE	Indication on display
OFF	ALL SV OFF
LASER READ	LASER READ
LASER 1/2 WRITE	LASER 1/2
LASER WRITE	LASER WRITE

2) After confirming the message, press the ■ button to turn off the "ALL SV OFF" display.

2-7. Checking Operation of OWH (Over Write Head)

The OWH can be moved up and down by pressing the "CD → MD DIRECT REC" and the "EJECT" buttons in the state of loading-completed.

"CD → MD DIRECT REC" button .... OWH DOWN
"EJECT" button .... OWH UP

Note: Do not move down the OWH down when the high reflection disc (CD) is in use.

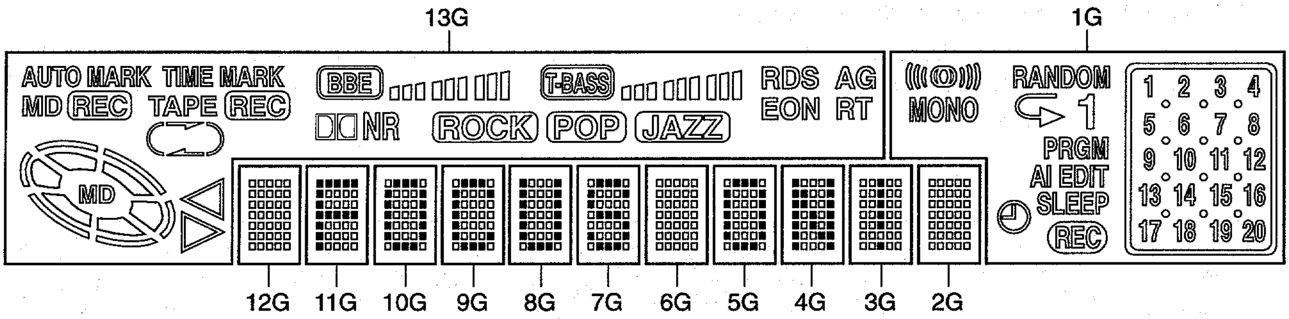
2-8. Checking the Servo Operation

- Checking the focus search spindle kick

1) The focus search operation and the spindle kick operation can be performed continually by pressing ◀ ▶ (PLAY) button from the "ALL SV OFF" state without inserting a disc. During this check, the message "FOCUS SRCH" is displayed.
2) After checking these operations, press the ■ button to return to the "ALL SV OFF" state.

- Checking the focus servo

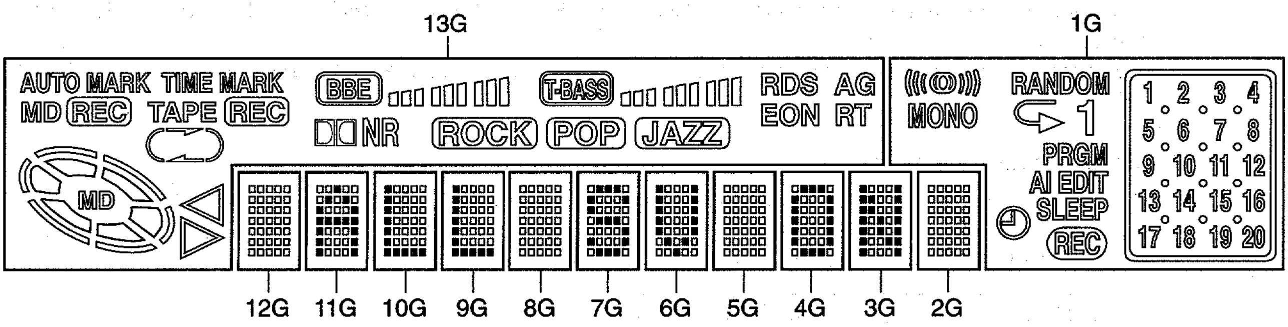
1) Insert the test DISC.
2) Move the optical pickup to the center track or its around of a disc using the ▶▶ and the ◀◀ buttons.
3) Press the "MODE" button until the following servo mode is selected in accordance with the inserted DISC.
   * MO DISC (MO) .... Select the "SELECT GRV" indication on the display.
   * PIT DISC (CD) .... Select the "SELECT PIT" indication on the display.
4) Press the ◀ ▶ button.
   When the focus servo is operating normally, the message "FOCUS ON!" is displayed after "FOCUS SRCH".


13G
1G
AUTO MARK TIME MARK
MD REC TAPE REC
BBE
T-BASS
RDS AG
EON RT
DD NR
ROCK POP JAZZ
MD
MONO
RANDOM
1
PRGM
AI EDIT
SLEEP
REC
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G

5) After the checking is completed, press the ■ button to return to the "ALL SV OFF" state.

* Checking that the all servo loops are turned ON

1) The tracking servo and the sled servo are turned on and all servo loops work when the "ENTER" button is pressed in the state of "FOCUS ON!".
   When all servo loops are normal, "ALL SV ON" is displayed.


13G
1G
AUTO MARK TIME MARK
MD REC TAPE REC
BBE
T-BASS
RDS AG
EON RT
DD NR
ROCK POP JAZZ
MD
MONO
RANDOM
1
PRGM
AI EDIT
SLEEP
REC
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G

2) After the checking is completed, press the ■ button to return to the "ALL SV OFF" state.

2-9. Adjustment Mode

Name of adjustment: Temperature compensation adjustment
Test point: Check the indication on the display.
Jig: Thermometer
Adjustment procedure:

1) Start up the MD test mode and press the ■ button to show the message "ALL SV OFF" on display.
2) Press the "DISPLAY" button to switch the display to "TEMP=$◇◇".
3) Press the ❚❚ (PAUSE) button to switch the display to "TEMP + **c: +00".
4) Place the thermometer near the MD mechanism to measure the room temperature.
5) Adjust the indication value on display until the room temperature is the same as the indicated temperature ** on the display using the ▶▶ and ◀◀ buttons. After adjustment is complete, press the "ENTER" button.
6) After the adjustment is completed, press the ■ button to return to the "ALL SV OFF" state.
7) After the above settings are completed, reduce or add the value indicated by the sharp sign (##) of "TEMP + **c: +00" from or to the value indicated by the asterisk (**) of "TEMP + **c: +00". The calculated value must be the room temperate.

Note: If the room temperature cannot be measured, do not adjust the above item.

3. Laser Power Adjustment

Test point: Pickup laser output
Jig: Laser power meter
Adjusting procedure:

1) Press the “MD EDIT” button three times in the state of “ALL SV OFF” in order to switch the display to “LASER WRITE”.
2) Press the ❚❚ button once to show the “LASER = $**”.
3) Measure the laser output of the pickup unit using a laser power meter. Adjust the laser output value for 6.8±0.03 mW by pressing the ►► and ◄◄ buttons. After adjustment, press the “ENTER” button.
4) After the adjustment is completed, press the ■ button to return to the “ALL SV OFF” state.

Note: If the laser output exceeds 7.0 mW, the pickup may be damaged.

4. Auto Sequence Adjustment (EFB Adjustment, IVR Adjustment, Focus AGC Adjustment and Tracking AGC Adjustment)

Test disc: MDW-60, TGYS-1
When using the MO disc for adjustment:

1) Insert the test disc MDW-60.
2) Press the ■ button to show “ALL SV OFF” on display.
3) Press the “MODE” button to show “SELECT GRV” on display.
4) When the “MD function” button is pressed, “AUTO ADJ” is displayed. When the adjustment is completed, “DONE” is displayed. (If “FAILED” is displayed, it shows that the adjustment has failed and is not performed.)
5) After the adjustment is completed, press the ■ button to return to the “ALL SV OFF” state.

Note:
1. Be sure to use the clean disc because the adjustment cannot be ensured if the dirty disc or the scratches on a disc is used.
2. Be sure to use an MO disc that is permitted to record a new data because the MO disc is tested by writing power and a part of the recorded data is erased.

How to check the IVR, EFB, Focus/Tracking/Sled Gains

① Move the optical pickup to the center track or its around of a disc using the ►► and the ◄◄ buttons.
② Press the ◄ ► button to show “FOCUS ON!” on display.
③ Press the “ENTER” button to switch the mode to “ALL SV ON”.
④ Press the ■ button and press twice the “DISPLAY” button.
Check that the indication value on the display “IV$**:EF$◇◇” is within the range as follows below.
“**” 03-07
“◇◇” 09-12
⑤ Press the “DISPLAY” button again.
Check that the indication value on the display “Gf**t##s△△” is within the following ranges.
“**” .... 20 to 40
“##” .... 15 to 35
“△△” .... 15 to 35
⑥ After the checking is completed, press the ■ button to return to the “ALL SV OFF” state.

When using the PIT disc for adjustment:

1) Insert the test disc TGYS-1.
2) Press the ■ button to show “ALL SV OFF” on display.
3) When the “MD function” button is pressed, “AUTO ADJ” is shown on display. When adjustment is completed, “DONE” is displayed. (If “FAILED” is displayed, it shows that the adjustment has failed and is not performed.)
4) After the adjustment is completed, press the ■ button to return to the “ALL SV OFF” state.

Checking Method of IVR, EFB, Focus/Tracking/Sled Gain
Perform the same operation as that of the “When using the MO disc for adjustment” and confirm that the values on the display are within the following ranges.

“IVR” .... 13 to 17
“EFB” .... 09 to 12
“Focus gain” .... 2A to 45
“Tracking gain” .... 20 to 40
“Sled gain” .... 20 to 40

5. Checking Focus Servo and Error Rate (PIT Disc)

1) Insert the test disc TGYS-1.
2) Move the optical pickup to the center track or its around of a disc using the ▸▸ and the ◂◂ buttons.
3) Press the "MODE" button to show "SELECT PIT" on the display.
4) Press the ◀ ▶ button to show "FOCUS ON!" on the display..
5) Press the "ENTER" button to show "ALL SV ON" on the display. Then press the "DISPLAY" button once to check that the address display advances with regularity.
6) Press the "DISPLAY" button again to show the playback error rate on display and check that the value shown by the asterisks (****) of "Er****:####" is "0030" or less.
7) After the adjustment is completed, press the ■ button to return to the "ALL SV OFF" state.

6. Checking Record/Playback Error Rate (MO Disc)

1) Insert the test disc MDW-60.
2) Move the optical pickup to the center track or its around of a disc using the ▸▸ and the ◂◂ buttons.
3) Press the "CD function" button to start recording from 600 cluster.
4) After about 15 seconds of recording, press the ■ button to show "ALL SV OFF" on display.
5) Press the "AUX" button to enter the "ALL SV ON" mode. Then press the "DISPLAY" button at around the 600 cluster. Check that the value of "Er****:####" is "0020" or less.
6) After adjustment, press the ■ button to show "ALL SV OFF" on display.

7. UTOC ERASE

Perform this item only when the recorded disc should be erased.

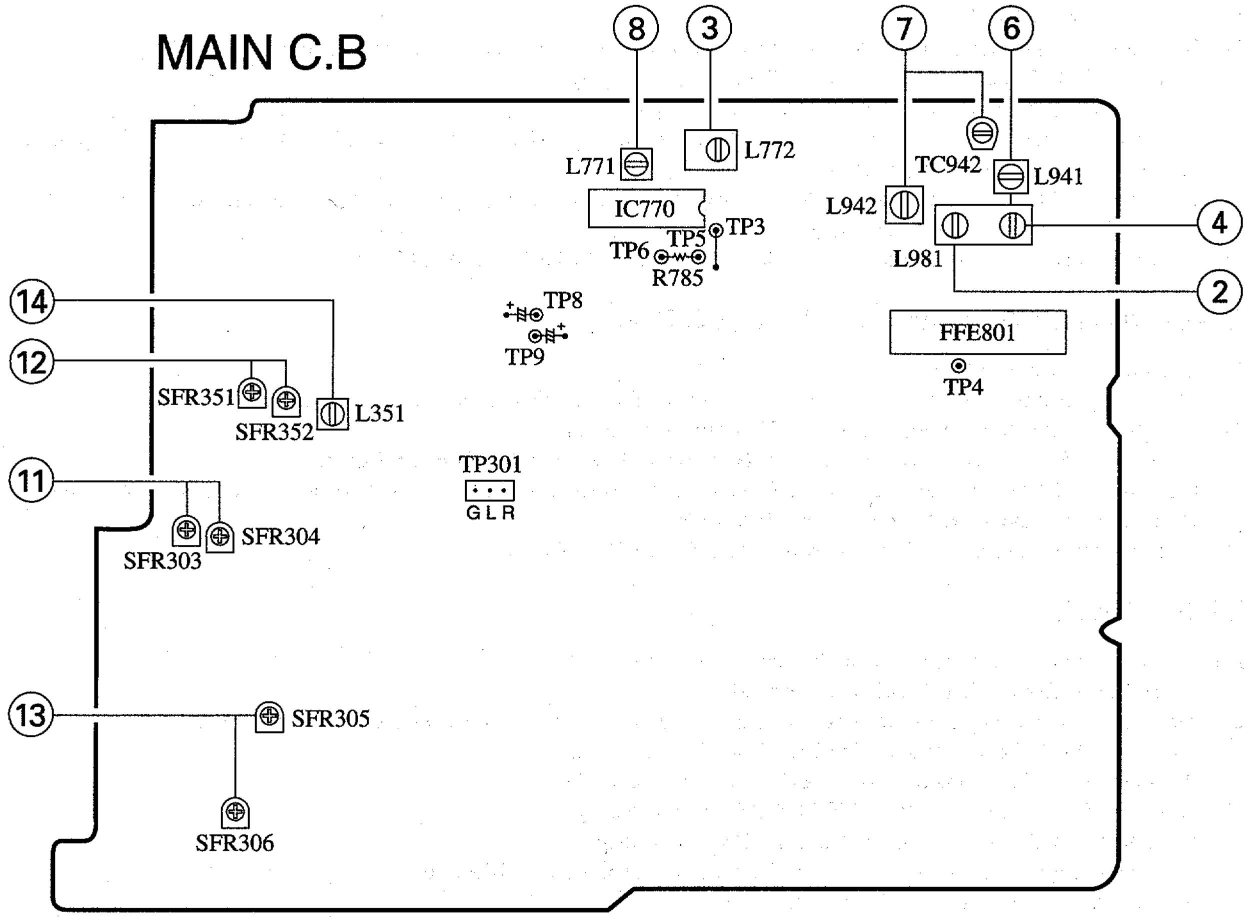
1) Insert the disc from which UTOC is to be erased.
2) Move the optical pickup to the center track or its around of a disc using the ◂◂ ⏮ and the ⏭ ▸▸ buttons.
3) Press the "MODE" button to show "SELECT GRV" on the display.
4) Press the "MD REC" button to show "REC Analog" on the display.
5) Press the MD ◀ ▶ button to show "FOCUS ON!" on the display.
6) Press the "ENTER" button to show "ALL SV ON" on the display.
7) Press the ● button to show "UTOC ERASE" on the display and UTOC is erased.
8) After erasing UTOC, "ALL SV OFF" is displayed.

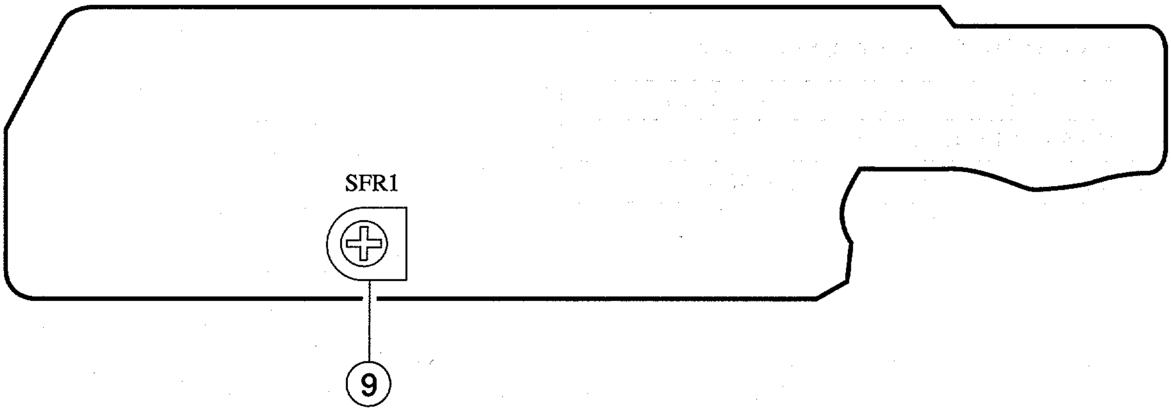
SERVICE JIG AND TOOLS

Use the following jigs when opening the C.B boards.

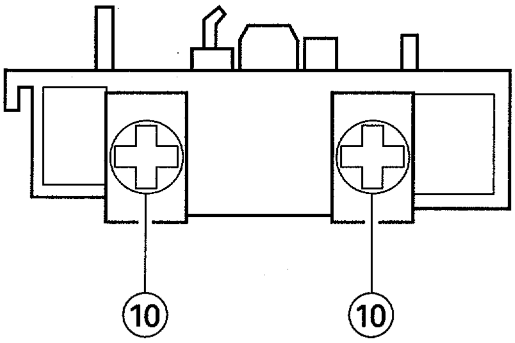
NAME	PART NO
JIG, P-CD BY TORIKOSHI	SV-J00-018-010
FF-CABLE, 16P 1.0 250mm	87-CE1-640-010

MAIN C.B


⑧
③
⑦
⑥
L771
L772
TC942
L941
IC770
L942
TP3
TP5
TP6
R785
④
L981
②
TP8
TP9
FFE801
TP4
⑭
⑫
SFR351
SFR352
L351
TP301
G L R
⑪
SFR303
SFR304
⑬
SFR305
SFR306



R.P.E HEAD



< TUNER SECTION >

1. Clock Frequency Check

Settings: • Test point: TP3 (CLK IC770 pin30)

Method: Set to AM 1710kHz (LH), MW 1602kHz (EZ) and check that the test point becomes 2160kHz±45Hz (LH), 2052kHz±45Hz (EZ).

2. AM VT Check (LH)

Settings: • Test point: TP4 (VT)

Method: Set to AM 1710kHz and check that the test point is less than 7.0V.
Then set to AM 530kHz and check that the test point is more than 0.5V.

2. MW VT Adjustment (EZ)

Settings: • Test point: TP4 (VT)

Method: Set to MW 1602kHz and check that the test point is less than 8.5V.
Then set to MW 531kHz and check that the test point is more than 0.5V.

3. MW (AM) IF Adjustment

Settings: • Test point: TP8, TP9
L772 .... 450kHz

4. AM Tracking Adjustment (LH)

Settings: • Test point: TP8, TP9
• Adjustment location: L981

Method: Set to AM 1000kHz and adjust L981 so that the test point becomes maximum.

4. MW Tracking Adjustment (EZ)

Settings: • Test point: TP8, TP9
• Adjustment location: L981

Method: Set to MW 999kHz and adjust L981 so that the test point becomes maximum.

5. FM VT Check

Settings: • Test point: TP4 (VT)

Method: Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.5V (108.0MHz).

6. LW VT Adjustment (EZ)

Settings: • Test point: TP2 (VT)
• Adjustment location: L942

Method: Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V±0.05V.
Then set to LW 290kHz and check that the test point is less than 6.0V.

7. LW Tracking Adjustment (EZ)

Settings: • Test point: TP8, TP9
• Adjustment location:
L941 .... 144kHz
TC942 .... 290kHz

Method: Set up TC942 to center before adjustment.
The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

8. DC Balance/Mono Distortion Adjustment

Settings: • Test point: TP5, TP6
• Adjustment location: L771
• Input level: 54dB

Method: Set to FM 98.0MHz and adjust L771 so that the voltage between TP5 and TP6 becomes 0V±0.04V.
Next, check that the distortion is less than 1.3%.

< DECK SECTION >

9. Tape Speed Adjustment

Settings: • Test tape: TTA-100
• Test point: TP301
• Adjustment location: SFR1

Method: Playback the test tape by DECK2 and adjust SFR1 so that the frequency counter reads 3000Hz±5Hz. Check that the counter reading in the REV mode is within the range of ±45Hz of that in the FWD mode.

10. Azimuth Adjustment

Settings: • Test tape: TTA-300
• Test point: TP301
• Adjustment location: Head azimuth adjustment screw

Method: Playback the 10kHz signal of the test tape and adjust the adjustment screw so that the output becomes the -5dB point below the maximum reading. The adjustment must ends with the clockwise rotation of the adjustment screw. Perform this adjustment in both FWD and REV directions. Fix the adjustment screw with adhesive agent upon completion of adjustment.

11. PB Sensitivity Adjustment

Settings: • Test tape: TTA-200
• Test point: TP301
• Adjustment location:
SFR303 (Lch)
SFR304 (Rch)

Method: Play back the test tape and adjust SFRs so that the output level of the TP301 becomes 245mV.

12. REC/PB Frequency Response Adjustment

Settings: • Test tape: TTA-602
• Test point: TP301
• Input signal: 1kHz/10kHz (LINE IN)
• Adjustment location: SFR351 (Lch)
SFR352 (Rch)

Method: Establish the record mode. Input the 1kHz and the 10kHz signals from LINE IN with the input level so that TP301 has the signal level of 12mV. Record the 1kHz and the 10kHz signals, then play them back. Adjust SFR so that the output difference between the 1kHz and the 10kHz signals becomes 0dB±0.5dB.

13. REC/PB Sensitivity Adjustment

Settings:
- Test tape: TTA-602
- Test point: TP301
- Input signal: 1kHz /10kHz (LINE IN)
- Adjustment location: SFR305 (Lch)
  SFR306 (Rch)

Method: Establish the record mode. Input the 1kHz signal from LINE IN with the input level so that TP301 has the signal level of 12mV. Record the 1kHz signal, then play it back. Adjust SFR so that the output level becomes 12mV±0.5dB.

14. Bias OSC Frequency Adjustment

Settings:
- Test tape: TTA-601
- Test point: TP10 (R311)
- Adjustment location: L351

Method: Set to the REC mode. Adjust L351 so that the frequency at TP10 is 85.0kHz±1kHz.

PRACTICAL SERVICE FIGURE

< TUNER SECTION >

(LH MODEL)

<FM SECTION>

IHF Sensitiviy: (THD 3%)	4dB±6dB (at 87.5/98.0MHz) 5dB±6dB (at 108MHz)
Signal to noise ratio:	More than 65dB (at 98.0MHz)
Distortion: (Input: 54dB)	Less than 1.3% (at 98.0MHz)
Stereo separation:	More than 25dB (at 98.0MHz)
Intermediate frequency:	10.7MHz

<AM SECTION>

Sensitivity: (S/N 20dB)	54dB±6dB (at 600kHz) 52dB±6dB (at 1000/1400kHz)
Signal to noise ratio: (Input: 100dB)	41dB±36dB (at 1000kHz)
Distortion:	Less than 1.5% (at 1000kHz)
Intermediate frequency:	450kHz

(EZ MODEL)

<FM SECTION>

IHF Sensitiviy: (THD 3%)	-2-14dB (at 87.5/98.0MHz) 0-16dB (at 108.0MHz)
Signal to noise ratio:	More than 60dB (98.0MHz)
Distortion:	Less than 1.3% (98.0MHz)
Stereo separation:	More than 25dB (98.0MHz)
Intermediate frequency:	10.7MHz

<MW SECTION>

Sensitivity: (S/N 20dB)	54dB±6dB (at 600kHz) 52dB±6dB (at 1000/1400kHz)
Signal to noise ratio: (Input: 100dB)	41dB±36dB (at 1000kHz)
Distortion:	Less than 1.5% (at 1000kHz)
Intermediate frequency:	450kHz

<LW SECTION>

Sensitivity:	64±5dB [at 144kHz] 62±5dB [at 198kHz] 60±5dB [at 290kHz]
Distortion:	Less than 1.8%
Intermediate frequency:	450kHz

< DECK SECTION >

Tape speed:	3000Hz±2.0%	
Wow & flutter: (W.R.M.S)	Less than 0.21%	
Take-up torque:	30-55g-cm (FWD, REV)	
F.F torque:	75-160g-cm	
REW torque:	75-160g-cm	
Back tension:	3±4g-cm (FWD, REV)	
PB Output level:	450mV±2dB (LINE OUT)	
REC/PB Output level:	300mV±2dB (LINE OUT)	
Distortion (REC/PB):	Less than 2% (NORM, CrO2)	
Noise level (PB):	Less than 3mV (DOLBY NR OFF, NORM) Less than 2mV (DOLBY NR ON, CrO2)	
Noise level (REC/PB):	Less than 3.2mV (DOLBY NR OFF, NORM) Less than 2.2mV (DOLBY NR ON, CrO2)	
Erasing ratio:	More than 60dB (125Hz)	
REC bias frequency:	85kHz	
Test tape:	NORMAL	TTA-100 TTA-300 TTA-601 TTA-602
	CrO2	TTA-200

IC DESCRIPTION

IC, LC866560W-5H34

Pin No.	Pin Name	I/O	Description
1	O-CDTOPEN	O	CD tray open control output.
2	O-CDTCLOSE	O	CD tray close control output.
3	I-RDSDATA	I	RDS data input.
4	O-$\overline{\mathrm{F}}$.LED	O	Power supply control output to the function LED.
5	O-M.STB	O	Connected to the main shift register 4094 ① STB.
6	O-CLK	O	Connected to the front shift register BU2092 ③, CLK and main shift register 4094 ③, CLK and tuner PLL IC LC72131 and to the ⑤ CL.
7	O-DATA	O	Connected to the front shift register BU2092 ②, CLK and main shift register 4094 ②, CLK and tuner PLL IC LC72131 and to the ④ CL.
8	O-VOLCTL	O	Connected to the VOL/P. EQ IC M62439SP ⑪ CONT.
9	O-$\overline{\mathrm{P}}$.ON	O	Power supply control output of this machine.
10	O-COIN	O	Connected to the CD DSP LC78622E pin-56 COIN and CD ASP LA9240M pin-52 DAT.
11	O-$\overline{\mathrm{CKSFT}}$	O	Clock shift output. L: shift.
12	$\overline{\mathrm{RST}}$	—	Microprocessor reset.
13	I-$\overline{\mathrm{STEREO}}$/I-DRF	I	Connected to the tuner, stereo detection and CD DSP LC78622E 54pin DRF.
14	I-TUDO/I-SQOUT	I	Connected to the tuner PLL LC72131 6DO and CD DSP LC78622E pin-55 SQOUT.
15	VSS	—	GND.
16, 17	CF1, CF2	—	Connected to 5.76 MHz oscillator.
18	VDD1	—	Microprocessor power supply. (μ-com 5V)
19	I-$\overline{\mathrm{ACOFF}}$	I	Hold state detection.
20, 21	I-KEY1, I-KEY0	I	Key AD value input.
22	I-DSW	I	Deck mechanism status detection input (AD).
23	I-TU-SIG/I-MS	I	RDS signal level AD value input (A/D) and tape music sensor input. (A/D).
24	I-CDTSW	I	CD tray open/close status detection input (A/D).
25	I-ENC1	I	AD value input of the rotary encoder outputs A and B of multi jog.
26	I-ENC0	I	AD value input of the rotary encoder outputs A and B of electric volume control.
27	I-RD-SCLK/I-WRQ	I	Connected to the RDS CLK input and CD DSP LC78622E pin-53 WRQ.
28	I-TMBASE	I	Connected to the reference clock input for watch, PLL IC LC72131 ⑦.
29	I-RMC	I	Remote control input.
30-41	G13-G2	O	FL tube grid output. (G13-G2).
42, 43	P35, P34	O	FL tube anode output. (P35, P34).
44	G1	O	FL tube grid output. (G1).
45	P33	O	FL tube anode output. (P33).
46	VDD3	—	Microprocessor power supply. (μ-com 5V).
47-50	P32-P29	O	FL tube anode output. (P32-P29).
51	VP	—	Connected to the negative power supply -VFL of FL tube.
52-68	P28-P12	O	FL tube anode output. (P28-P12).
69	P11/$\overline{\mathrm{BBE}}$	O	FL tube anode output. (P11).
70	P10/$\overline{\mathrm{DOLBY}}$	O	FL tube anode output. (P10).
71	P9/$\overline{\mathrm{CDSH}}$	O	FL tube anode output. (P9).

Pin No.	Pin Name	I/O	Description
72	VDD4	—	Microprocessor power supply. (μ-com 5V).
73	P8/AMST	O	FL tube anode output. (P8) and initial diode matrix input.
74	P7/AM10K	O	FL tube anode output. (P7).
75	P6/LW	O	FL tube anode output. (P6).
76	P5/SW	O	FL tube anode output. (P5).
77	P4/OIRT	O	FL tube anode output. (P4).
78	P3/RDS	O	FL tube anode output. (P3).
79	P2/CAM	O	FL tube anode output. (P2).
80	P1/AUTO	O	FL tube anode output. (P1).
81	S48	—	Not connected.
82	O-SWSCAN	O	Key scan detection timing switch.
83	O-MOTOR	O	Deck mechanism motor control output.
84	O-F.STB	O	Connected to the front shift register 2092 ④ STB.
85, 86	O-BBEA, O-BBEB	O	BBE level selection output.
87	O-CE	O	Connected to the tuner PLL IC LC72131 ③ CE.
88	O-$\overline{\text{MDRST}}$	O	MD unit 7ZG-9A reset signal output.
89	VSS2	—	GND.
90	VDD2	—	Microprocessor power supply. (μ-com 5V).
91	O-RWC	O	Connected to the CD DSP LC78622E pin-59 RWC and CD SP LA9240M 53pin CE.
92	O-$\overline{\text{CQCK}}$	O	Connected to the CD DSP LC78622E pin-57 $\overline{\text{CQCK}}$ and CD SP LA9240M pin-51 CL.
93	O-MUTE	O	Main mute output.
94	O-$\overline{\text{PL}}$	O	Deck mechanism plunger solenoid control output.
95	O-SIN	O	Serial data output for MD unit control.
96	I-SOUT	I	Serial data input for MD unit control.
97	I-ACLK	I	Serial clock input for MD unit control.
98	O-ARDY	O	Serial data send/receive ready output for MD unit control.
99	O-SREQ	O	Serial data transfer request for MD unit control.
100	I-MREQ	I	Serial data transfer request for MD unit control.

IC, LA9241M

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES "Track Error Sense" comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	NC	—	No connection.
24	SP	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	"High Frequency Level" is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	"Slice Level Control" is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	"Tracking Balance Control" EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	"Detect RF" RF level detector output.
55	FSS	I	"Focus Search Select" focus search mode (± search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

IC, LC78622E

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV–	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24-28	SL+ - PUIN	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

IC, CXD2652AR

Pin No.	Pin Name	I/O	Description
1	MNT0	O	Monitor output terminal.
2	MNT1	O	Monitor output terminal.
3	MNT2	O	Monitor output terminal.
4	MNT3	O	Monitor output terminal.
5	SWDT	I	Microprocessor serial interface data input.
6	SCLK	I	Microprocessor serial interface shift clock input.
7	XLAT	I	Microprocessor serial interface latch input. Latched at falling down edge.
8	SRDT	O	Microprocessor serial interface data output.
9	SENS	O	The terminal which outputs internal status in accordance with the address of the microprocessor serial interface.
10	XRST	I	Reset input. L: reset.
11	SQSY	O	Disc sub code Q sync/ADIP sync output.
12	DQSY	O	Subcode Q sync output of U-bit CD or MD format when the DIGITAL IN source is CD or MD.
13	RECP	I	Laser power selection input. H: Recording power, L: Playback power.
14	XINT	O	Interrupt request output terminal. L is output when interrupt status is generated.
15	TX	I	Record data output enable signal input terminal. H: enable.
16	OSCI	I	Crystal oscillator circuit input terminal.
17	OSCO	O	Crystal oscillator circuit output terminal. (Inverted output of OSCI).
18	XTSL	I	OSCI terminal input frequency selection. H: 512 Fs (22.5792 MHz), L: 1024 Fs (45.1584 MHz).
19	NC	—	Not connected.
20	DVSS	—	Digital GND.
21	DIN	I	Digital audio interface signal input.
22	DOUT	O	Digital audio interface signal output.
23	ADDT	I	Analog recording signal input terminal. (External A/D converter output is connected to this terminal).
24	DADT	O	RECORD monitor output/decode audio data output.
25	LRCK	O	LRCK (44.1 kHz) output terminal to external audio block.
26	XBCK	O	Bit clock output (2.8224 kHz) output terminal to external audio block.
27	FS256	O	256 Fs output. (11.2896 MHz).
28	DVDD	—	Digital power supply.
29	A03	O	Address output to external DRAM.
30	A02	O	Address output to external DRAM.
31	A01	O	Address output to external DRAM.
32	A00	O	Address output to external DRAM.
33	A10	O	Address output to external DRAM. (Not used).
34	A04	O	Address output to external DRAM.
35	A05	O	Address output to external DRAM.
36	A06	O	Address output to external DRAM.
37	A07	O	Address output to external DRAM.

Pin No.	Pin Name	I/O	Description
38	A08	O	Address output to external DRAM.
39	A11	O	Address output to external DRAM. (Not used).
40	DVSS	—	Digital GND.
41	XOE	O	External DRAM output enable.
42	XCAS	O	$\overline{\text{CAS}}$ output to external DRAM.
43	A09	O	Address output to external DRAM.
44	XRAS	O	$\overline{\text{RAS}}$ output to external DRAM.
45	XWE	O	Write enable for external DRAM.
46	D1	I/O	Data bus for external DRAM.
47	D0	I/O	Data bus for external DRAM.
48	D2	I/O	Data bus for external DRAM.
49	D3	I/O	Data bus for external DRAM.
50	MVCI	I	External VCO (784 fs) clock input.
51	ASYO	O	Playback EFM full swing output. (L: VSS, H: VDD).
52	ASYI	I	Playback EFM comparator slice voltage input.
53	AVDD	—	Analog GND.
54	BIAS	I	Playback EFM comparator bias current input.
55	RFI	I	Playback EFM RF signal input.
56	AVss	—	Analog power supply.
57	PDO	O	Phase comparison output to EFM decoder analog PLL.
58	PCO	O	Phase comparison output to the master PLL of playback digital PLL and to the recording EFM PLL.
59	FILI	I	Filter input to the master PLL of playback digital PLL and to the recording EFM PLL.
60	FILO	O	Filter output to the master PLL of playback digital PLL and to the recording EFM PLL.
61	CLTV	I	Internal VCO control voltage of the master PLL of playback digital PLL and of the recording EFM PLL.
62	PEAK	I	Optical light volume's peak hold signal input.
63	BOTM	I	Optical light volume's bottom hold signal input.
64	ABCD	I	Optical light volume signal input.
65	FE	I	Focus error signal input.
66	AUX1	I	Auxiliary input 1.
67	VC	I	Center terminal voltage input.
68	ADIO	O	Monitor output of A/D converter input signal.
69	AVDD	—	Analog power supply.
70	ADRT	I	Voltage input of the upper limit of the A/D converter operation range.
71	ADRB	I	Voltage input of the lower limit of the A/D converter operation range.
72	AVSS	—	Analog GND.
73	SE	I	Sled error signal input.
74	TE	I	Tracking error signal input.
75	AUX2	I	Auxiliary input 2.

Pin No.	Pin Name	I/O	Description
76	DCHG	I	Connected to the low impedance power supply.
77	APC	I	Error signal input to the laser digital APC.
78	ADFG	I	ADIP2 binary-converted FM signal (22.05±1 kHz) input.
79	F0CNT	O	Current source setting output terminal to CXA2523.
80	XLRF	O	Latch output for CXA2523 control. Latched at rise-up.
81	CKRF	O	Shift clock output for CXA2523 control.
82	DTRF	O	Data output for CXA2523 control.
83	APCREF	O	Reference PWM output to laser APC.
84	LDDR	O	PWM output to laser digital APC. (Not used).
85	TRDR	O	Tracking servo drive PWM output. (-).
86	TFDR	O	Tracking servo drive PWM output. (+).
87	DVDD	—	Digital power supply.
88	FFDR	O	Focus servo drive PWM output. (+).
89	FRDR	O	Focus servo drive PWM output. (-).
90	FS4	O	4 fs output. (176.4 kHz).
91	SRDR	O	Sled servo drive PWM output. (-).
92	SFDR	O	Sled servo drive PWM output. (+).
93	SPRD	O	Spindle servo drive PWM output. (PWM (-) or negative polarity).
94	SPFD	O	Spindle servo drive PWM output. (PWM (+) or PWM absolute value).
95	FGIN	I	FG input to spindle CAV servo.
96	TEST1	I	Test pin. Connected to GND.
97	TEST2	I	Test pin. Connected to GND.
98	TEST3	I	Test pin. Connected to GND.
99	DVSS	—	Digital GND.
100	EFMO	O	Low signal during playback. EFM (encode data) output: during recording.

IC, CXP81952

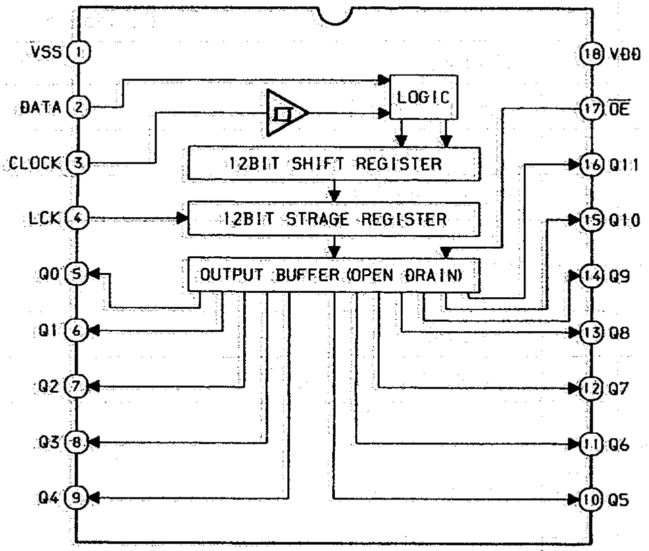
Pin No.	Pin Name	I/O	Description
1	MCAS	—	Not used.
2	MRAS	—	
3	BUP	—	
4	AMUTE	O	Audio mute signal output.
5	ESK	O	Serial clock output for EEPROM interface.
6	EDO	O	Serial data output for EEPROM interface.
7	EDI	I	Serial data input for EEPROM interface.
8	ECS	O	EEPROM interface chip select signal output.
9	—	—	Not used.
10	RFLCT	I	DISC reflectance factor detection switch input.
11	—	—	Not used.
12	LS	I	Optical pickup inner circumference detection switch input.
13	LDSW	I	Loading mechanism, EJECT position detection switch input.
14	PBSW	I	Loading mechanism, PB position detection switch input.
15	RECSW	I	Loading mechanism, RECORD position detection switch input.
16	—	—	Not used.
17	—	—	
18	ACOFF	—	
19	SREQ	I	System control send request signal input for system control interface.
20	EXTDIN	O	External DIGITAL-IN enable signal output.
21	SLOW	O	Loading mechanism speed control signal input.
22	LOAD	O	Loading mechanism operational direction control signal input 1.
23	EJECT	O	Loading mechanism operational direction control signal input 2.
24	MREQ	O	MD microprocessor send request signal output for system control interface.
25	DRIVE	O	EFM driver ON/OFF signal output.
26	—	—	Not used.
27	—	—	
28	—	—	
29	—	—	
30	—	—	
31	—	—	
32	—	—	
33	—	—	
34	—	—	
35	—	—	
36	—	—	
37	MP	—	Connected to VSS.
38	SRST	I	MD microprocessor reset signal input.
39	DGND	—	Connected to VSS.
40	XTALO	O	External system clock oscillation crystal connection terminal 1.
41	XTALI	I	External system clock oscillation crystal connection terminal 2.

Pin No.	Pin Name	I/O	Description
42	ARDY	I	Ready signal input for system control interface.
43	SIN	I	Serial data input for system control interface.
44	SOUT	O	Serial data output for system control interface.
45	ACLK	O	Serial clock output for system control interface.
46	XLAT	O	CXD2652 interface latch signal output.
47	XRST	O	CXD2652 reset signal output.
48	XSTBY	O	CXA2523 standby signal output.
49	—	—	Not used.
50	AVSS	—	Connected to VSS.
51	AVREF	—	Connected to VDD.
52	AVDD	—	
53	—	—	Not used. (PLL UP)
54	—	—	
55	—	—	
56	SLF	—	
57	SRF	—	
58	TEMP	—	
59	MAGIC	—	
60	—	—	
61	TEST	—	
62	DISCPRO	I	DISC write-protection switch input.
63	MNT3	I	CXD2652 monitor signal input 3.
64	MNT2	I	CXD2652 monitor signal input 2.
65	MNT1	I	CXD2652 monitor signal input 1.
66	MNT0	I	CXD2652 monitor signal input 0.
67	SENS	I	CXD2652 SENS signal input.
68	FLG	I	The terminal monitoring the flag included in the SRDT of the CXD2652 interface.
69	—	—	Not used.
70	—	—	
71	P-CONT	—	
72	RFSW	—	
73	—	—	
74	—	—	
75	DQSY	I	DIGITAL-IN SUB-Q sync input.
76	XINT	I	CXD2652 status sync input.
77	SRDT	I	CXD2652 interface serial data input.
78	SWDT	O	CXD2652 interface serial data output.
79	SCLK	O	CXD2652 interface serial clock output.
80	SQSY	I	SUB-Q, ADIP sync input.
81	—	—	Not used.
82	—	—	

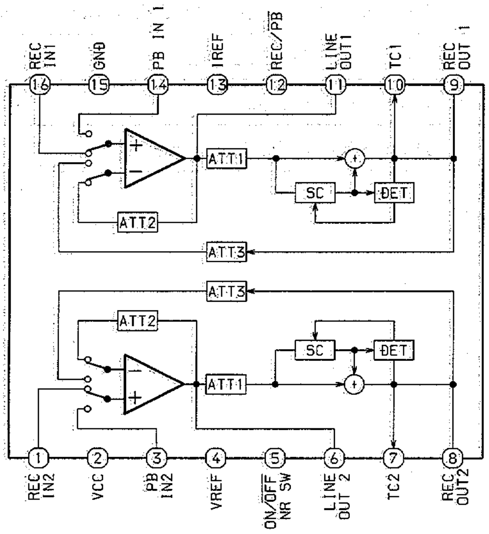
Pin No.	Pin Name	I/O	Description
83	—	—	Not used.
84	TXI	—	Connected to VSS.
85	TXO	—	Open. (Not used)
86	VSS	—	Connected to VSS.
87	VDD	—	Connected to VDD.
88	NC	—	
89	—	—	Not used.
90	DRVMUTE	O	BA5970FP mute signal output.
91	—	—	Not used.
92	—	—	
93	—	—	
94	—	—	
95	RECP	O	Laser power selection signal output.
96	TX	O	Record data output enable signal output.
97	MOD	O	RF modulation circuit ON/OFF signal output.
98	OPMUTE	O	Laser mute signal output.
99	ARST	O	AK4512 reset signal output.
100	DENF	O	De-emphasis ON/OFF signal output.

IC BLOCK DIAGRAM

IC, BU2092F

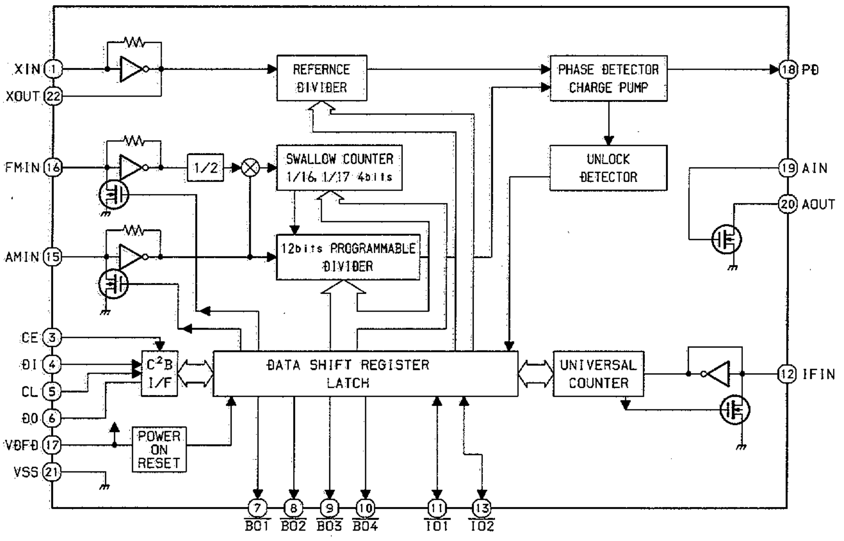

VSS 1
DATA 2
CLOCK 3
LCK 4
Q0 5
Q1 6
Q2 7
Q3 8
Q4 9
VDD 18
OE 17
Q11 16
Q10 15
Q9 14
Q8 13
Q7 12
Q6 11
Q5 10
LOGIC
12BIT SHIFT REGISTER
12BIT STRAGE REGISTER
OUTPUT BUFFER (OPEN DRAIN)

IC, CXA1553P

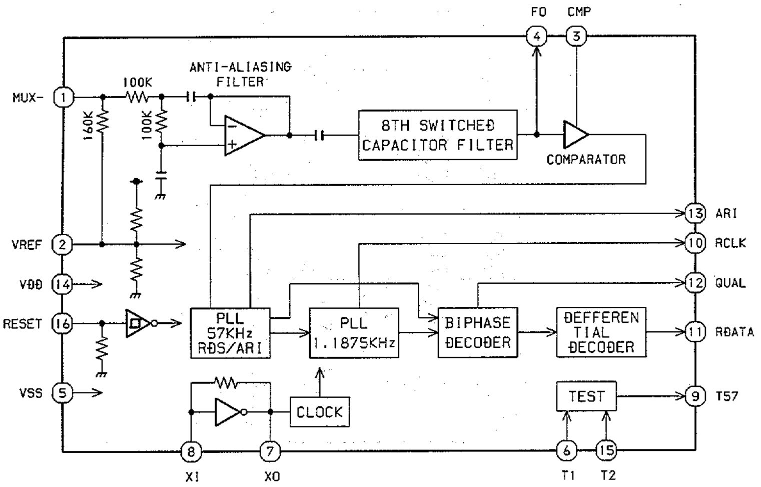

REC IN1 16
GND 15
PB IN 1 14
IREF 13
REC/PB 12
LINE OUT1 11
TC1 10
REC OUT 1 9
ATT1
ATT2
ATT3
SC
DET
REC IN2 1
VCC 2
PB IN2 3
VREF 4
ON/OFF NR SW 5
LINE OUT 2 6
TC2 7
REC OUT2 8

ATT:Attenuator
SC:Side Chain
DET:Detector

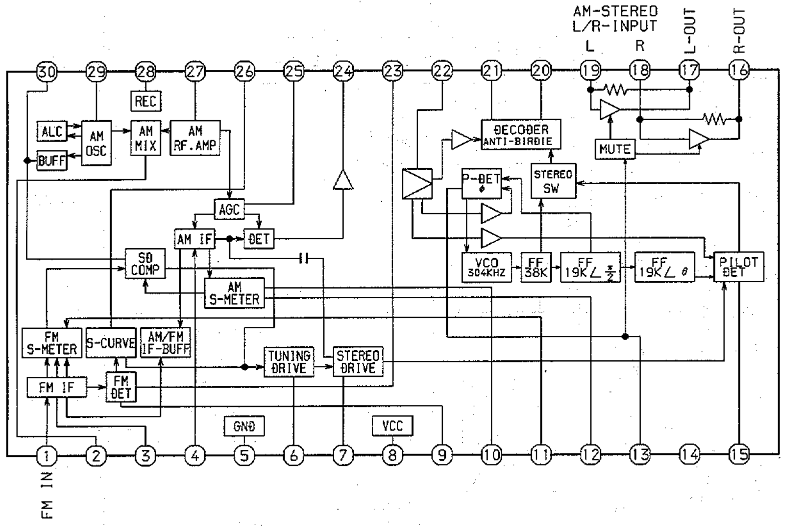
IC, LC72131


XIN 1
XOUT 22
FMIN 16
AMIN 15
CE 3
DI 4
CL 5
DO 6
VDFD 17
VSS 21
PD 18
AIN 19
AOUT 20
IFIN 12
REFERNCE DIVIDER
PHASE DETECTOR CHARGE PUMP
UNLOCK DETECTOR
1/2
SWALLOW COUNTER 1/16, 1/17 4bits
12bits PROGRAMMABLE DIVIDER
C²B I/F
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
POWER ON RESET
7 BO1
8 BO2
9 BO3
10 BO4
11 IO1
13 IO2

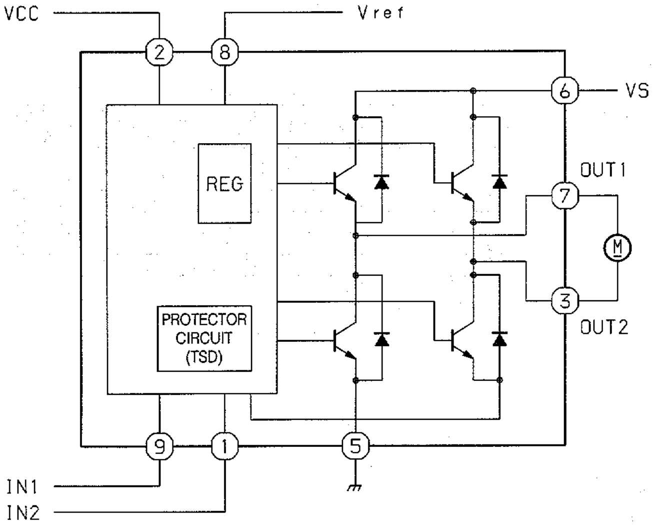
IC, BU1920FS


FO
CMP
ANTI-ALIASING FILTER
100K
MUX- 1
160K
100K
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
13 ARI
VREF 2
10 RCLK
VDD 14
12 QUAL
RESET 16
PLL 57KHz RDS/ARI
PLL 1.1875KHz
BIPHASE DECODER
DEFFEREN TIAL DECODER
11 RDATA
VSS 5
CLOCK
TEST
9 T57
8
7
6
15
XI
XO
T1
T2
4
3

IC, LA1837


AM-STEREO L/R-INPUT
L
R
L-OUT
R-OUT
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16
REC
ALC
AM OSC
AM MIX
AM RF.AMP
BUFF
DECODER ANTI-BIRDIE
MUTE
STEREO SW
P-DET
AGC
AM IF
DET
SD COMP
AM S-METER
VCO 304KHz
FF 38K
FF 19K∠π/2
FF 19K∠θ
PILOT DET
FM S-METER
S-CURVE
AM/FM IF-BUFF
TUNING DRIVE
STEREO DRIVE
FM IF
FM DET
GND
VCC
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
FM IN

IC, TA7291

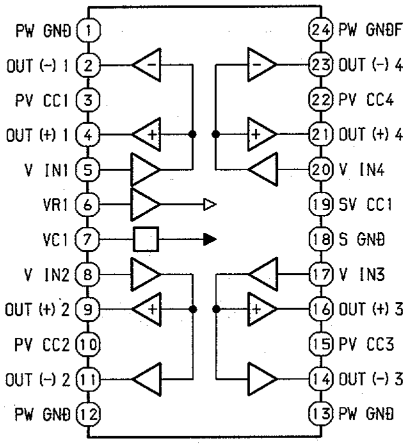

VCC
Vref
2
8
6
VS
REG
OUT1
7
M
3
OUT2
PROTECTOR CIRCUIT (TSD)
9
1
5
IN1
IN2

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

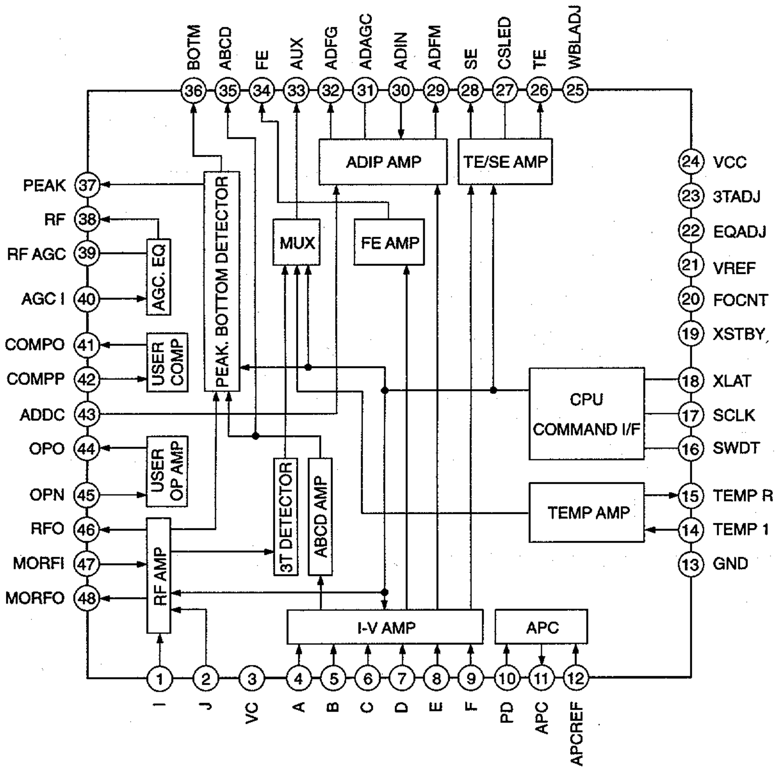
∞ : HI IMPEDANCE

NOTE : INPUT "H" ACTIVE

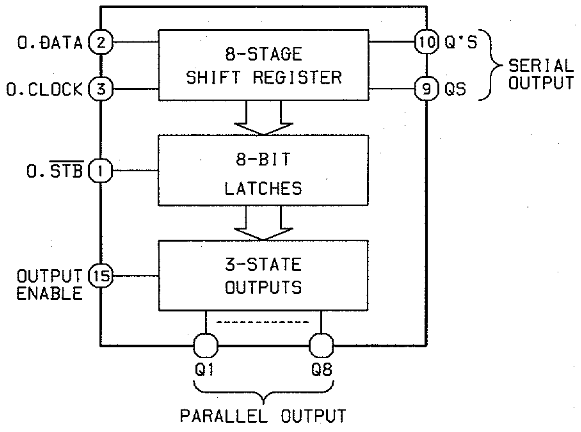
IC, TA2092


PW GND 1
OUT (-) 1 2
PV CC1 3
OUT (+) 1 4
V IN1 5
VR1 6
VC1 7
V IN2 8
OUT (+) 2 9
PV CC2 10
OUT (-) 2 11
PW GND 12
24 PW GNDF
23 OUT (-) 4
22 PV CC4
21 OUT (+) 4
20 V IN4
19 SV CC1
18 S GND
17 V IN3
16 OUT (+) 3
15 PV CC3
14 OUT (-) 3
13 PW GND

IC, CXA2523AR


BOTM 36
ABCD 35
FE 34
AUX 33
ADFG 32
ADAGC 31
ADIN 30
ADFM 29
SE 28
CSLED 27
TE 26
WBLADJ 25
ADIP AMP
TE/SE AMP
24 VCC
23 3TADJ
22 EQADJ
21 VREF
20 FOCNT
19 XSTBY
18 XLAT
17 SCLK
16 SWDT
15 TEMP R
14 TEMP 1
13 GND
PEAK 37
RF 38
RF AGC 39
AGC I 40
COMPO 41
COMPP 42
ADDC 43
OPO 44
OPN 45
RFO 46
MORFI 47
MORFO 48
AGC. EQ
USER COMP
USER OP AMP
RF AMP
PEAK. BOTTOM DETECTOR
MUX
FE AMP
3T DETECTOR
ABCD AMP
CPU COMMAND I/F
TEMP AMP
I-V AMP
APC
1 I
2 J
3 VC
4 A
5 B
6 C
7 D
8 E
9 F
10 PD
11 APC
12 APCREF

IC, BU4094


O.DATA 2
O.CLOCK 3
O.$\overline{\text{STB}}$ 1
OUTPUT ENABLE 15
8-STAGE SHIFT REGISTER
8-BIT LATCHES
3-STATE OUTPUTS
10 Q'S
9 QS
SERIAL OUTPUT
Q1
Q8
PARALLEL OUTPUT

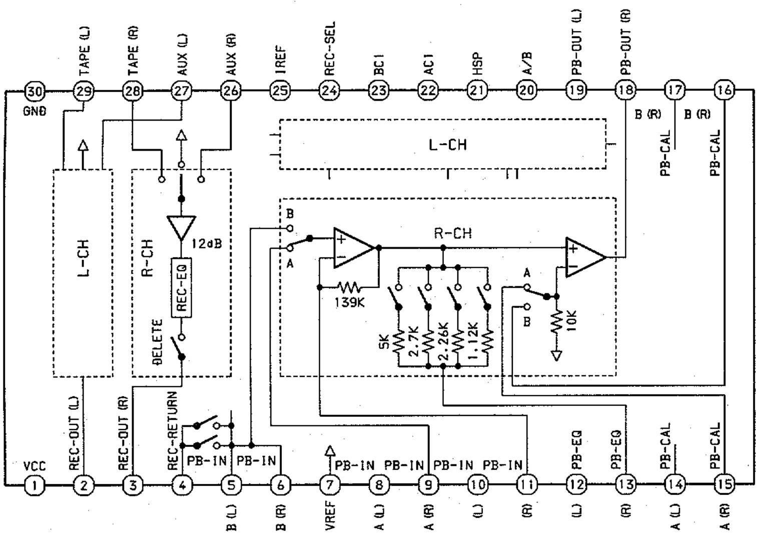
TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	QS	Q'S
↑	L	x	x	Z	Z	Q7	NO CHG.
↓	L	x	x	Z	Z	NO CHG.	QS
↑	H	L	x	NO CHG.	NO CHG.	Q7	NO CHG.
↑	H	H	L	L	Qn-1	Q7	NO CHG.
↑	H	H	H	H	Qn-1	Q7	NO CHG.
↓	H	x	x	NO CHG.	NO CHG.	NO CHG.	QS

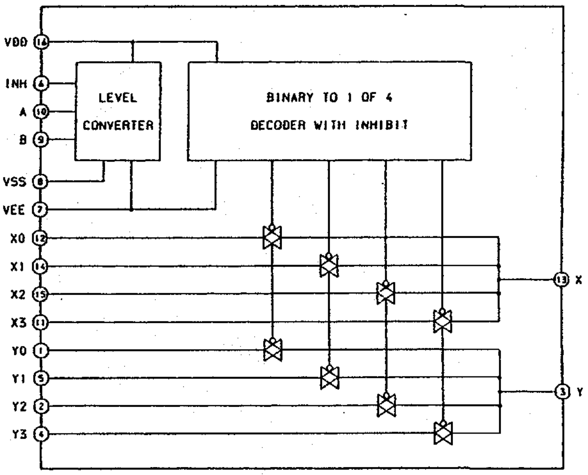
Z = HIGH IMPEDANCE
x = DON'T CARE

Q1:O.DOLBY ON	Q5:O.PLAY
Q2:O.DOLBY C	Q6:O.PB2
Q3:O.EXT.REC	Q7:O.LED
Q4:O.INT.REC	Q8:O.$\overline{\text{RMT}}$

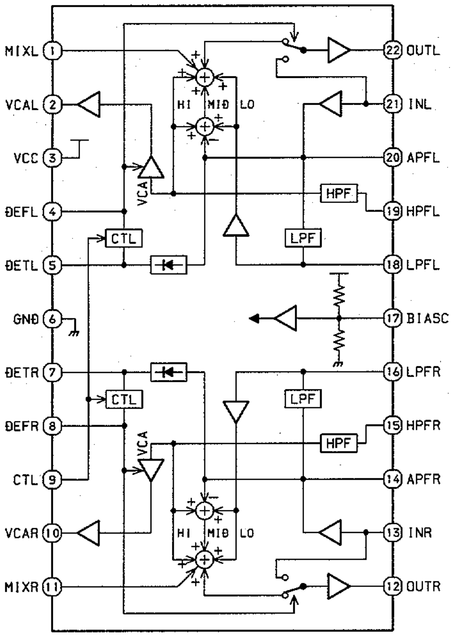
IC, HA12211


GND
TAPE (L)
TAPE (R)
AUX (L)
AUX (R)
IREF
REC-SEL
BC1
AC1
HSP
A/B
PB-OUT (L)
PB-OUT (R)
B (R)
B (R)
PB-CAL
PB-CAL
L-CH
L-CH
R-CH
12dB
REC-EQ
DELETE
B
A
R-CH
139K
5K
2.7K
2.26K
1.12K
A
B
10K
VCC
REC-OUT (L)
REC-OUT (R)
REC-RETURN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-EQ
PB-EQ
PB-CAL
PB-CAL
B (L)
B (R)
VREF
A (L)
A (R)
(L)
(R)
(L)
(R)
A (L)
A (R)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

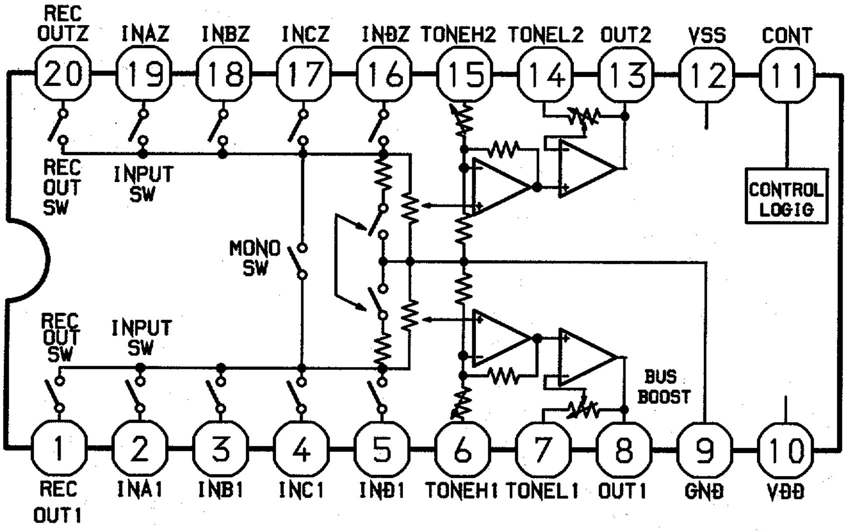
IC, BU4052


VDD 16
INH 6
A 10
B 9
VSS 8
VEE 7
X0 12
X1 14
X2 15
X3 11
Y0 1
Y1 5
Y2 2
Y3 4
LEVEL CONVERTER
BINARY TO 1 OF 4 DECODER WITH INHIBIT
13 X
3 Y

IC, BA3880

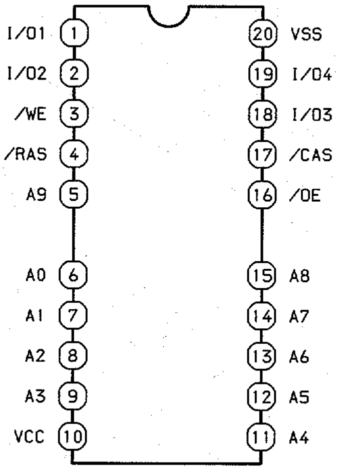

MIXL 1
VCAL 2
VCC 3
DEFL 4
DETL 5
GND 6
DETR 7
DEFR 8
CTL 9
VCAR 10
MIXR 11
22 OUTL
21 INL
20 APFL
19 HPFL
18 LPFL
17 BIASC
16 LPFR
15 HPFR
14 APFR
13 INR
12 OUTR
HI
MID
LO
VCA
HPF
LPF
CTL
CTL
LPF
HPF
VCA
HI
MID
LO

IC, M62439


REC OUTZ
INAZ
INBZ
INCZ
INDZ
TONEH2
TONEL2
OUT2
VSS
CONT
20
19
18
17
16
15
14
13
12
11
REC OUT SW
INPUT SW
MONO SW
CONTROL LOGIG
REC OUT SW
INPUT SW
BUS BOOST
1
2
3
4
5
6
7
8
9
10
REC OUT1
INA1
INB1
INC1
IND1
TONEH1
TONEL1
OUT1
GND
VDD

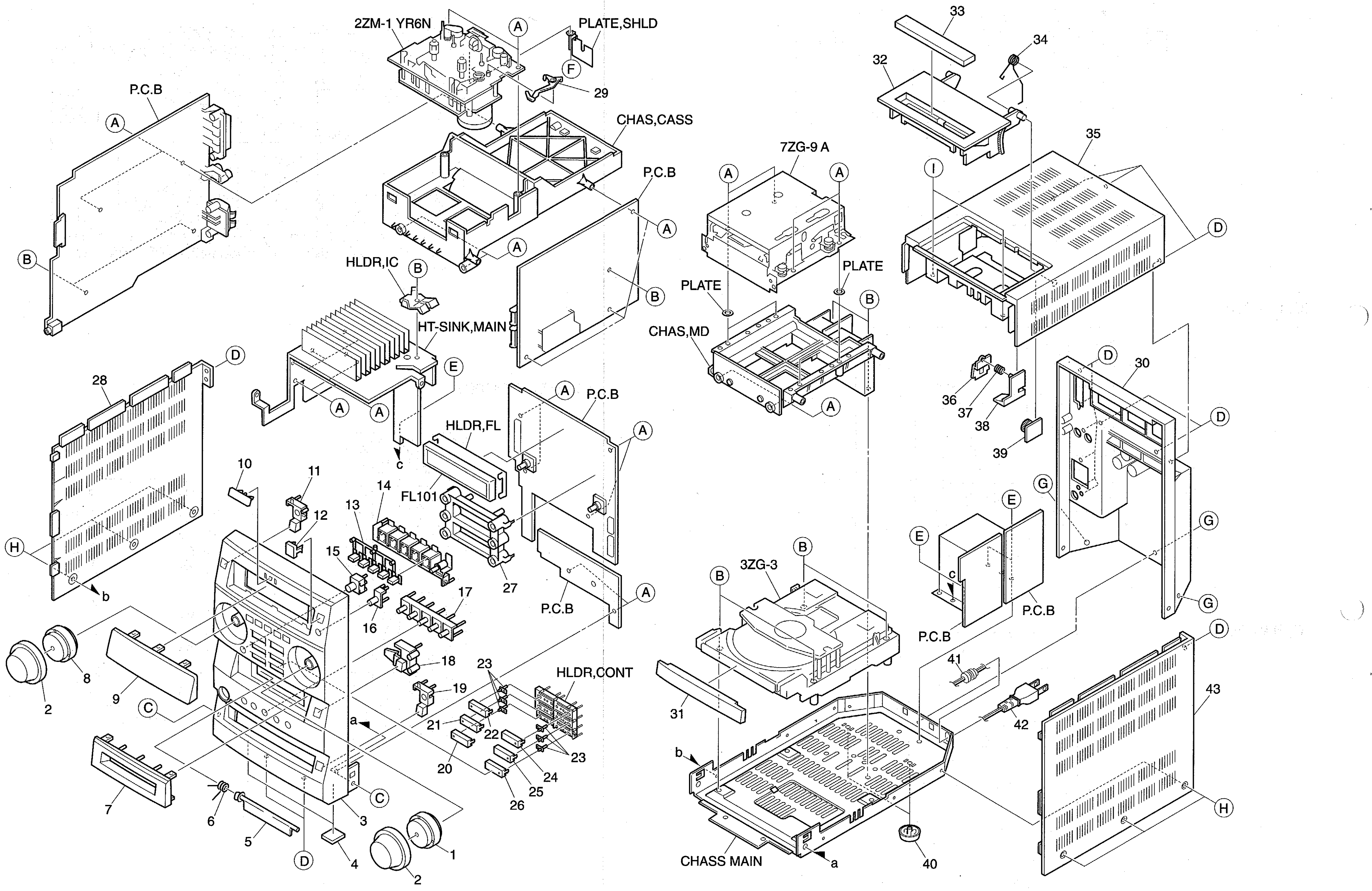
IC, HM51W4400BS

Pin No.	Signal name		
	Power supply/ Clock	Input	Out-put
1		I/O1	
2		I/O2	
3	/WE		
4	/RAS		
5		A9	
6		A0	
7		A1	
8		A2	
9		A3	
10	VCC		
11		A4	
12		A5	
13		A6	
14		A7	
15		A8	
16	/OE		
17	/CAS		
18		I/O3	
19		I/O4	
20	VSS		


I/O1
1
I/O2
2
/WE
3
/RAS
4
A9
5
A0
6
A1
7
A2
8
A3
9
VCC
10
VSS
20
I/O4
19
I/O3
18
/CAS
17
/OE
16
A8
15
A7
14
A6
13
A5
12
A4
11

(Top view)

MECHANICAL EXPLODED VIEW 1/1


2ZM-1 YR6N
A
PLATE,SHLD
F
29
P.C.B
A
CHAS,CASS
A
P.C.B
A
B
A
B
HLDR,IC
B
HT-SINK,MAIN
E
A
A
c
D
28
H
b
P.C.B
A
A
HLDR,FL
FL101
27
P.C.B
A
10
11
12
13
14
15
16
17
18
19
2
8
9
C
a
7
6
5
D
4
3
C
1
2
23
HLDR,CONT
21
22
20
24
25
26
23
33
34
32
35
7ZG-9 A
A
A
I
D
PLATE
PLATE
B
CHAS,MD
A
36
37
38
39
D
30
D
G
G
G
E
E
c
P.C.B
P.C.B
B
B
3ZG-3
31
41
42
D
43
H
b
CHASS MAIN
a
40

MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	88-CE3-208-010		KNOB,RTRY VOL
2	88-CE3-009-010		CAP, VOL
3	88-CE2-001-010		CABI,FR<LH>
3	88-CE2-065-010		CABI,FR EZ<EZ>
4	80-VT1-202-010		FELT,12.5-15.5-2
5	88-CE2-012-010		PANEL,FLAP
6	88-CE2-209-010		SPR-T,MD
7	88-CE2-007-010		PANEL,MD
8	88-CE2-207-010		KNOB,RTRY JOG
9	88-CE2-010-010		WINDOW,FL
10	87-CE3-023-010		BADGE,AIWA 30N SILV
11	88-CE2-020-010		BTN,POWER
12	88-CE2-011-010		WINDOW,RC
13	88-CE2-027-010		LENS,FUNC ASSY
14	88-CE2-022-010		BTN,MODE
15	88-CE2-023-010		BTN,ENTER
16	88-CE2-021-010		BTN,DEMO
17	88-CE2-025-010		BTN,MD
18	88-CE2-024-010		BTN,OPEN MD
19	88-CE2-026-010		BTN,OPEN CD
20	88-CE3-018-010		CAP, PAUSE
21	88-CE3-016-010		CAP, REW
22	88-CE3-013-010		CAP, STOP
23	88-CE3-007-010		LENS,CONT
24	88-CE3-014-010		CAP, PLAY
25	88-CE3-015-010		CAP, FF
26	88-CE3-017-010		CAP, REC
27	88-CE2-205-010		GUIDE,LED
28	88-CE2-004-010		PANEL,SIDE L
29	82-ZM1-263-110		LVR,EJECT L

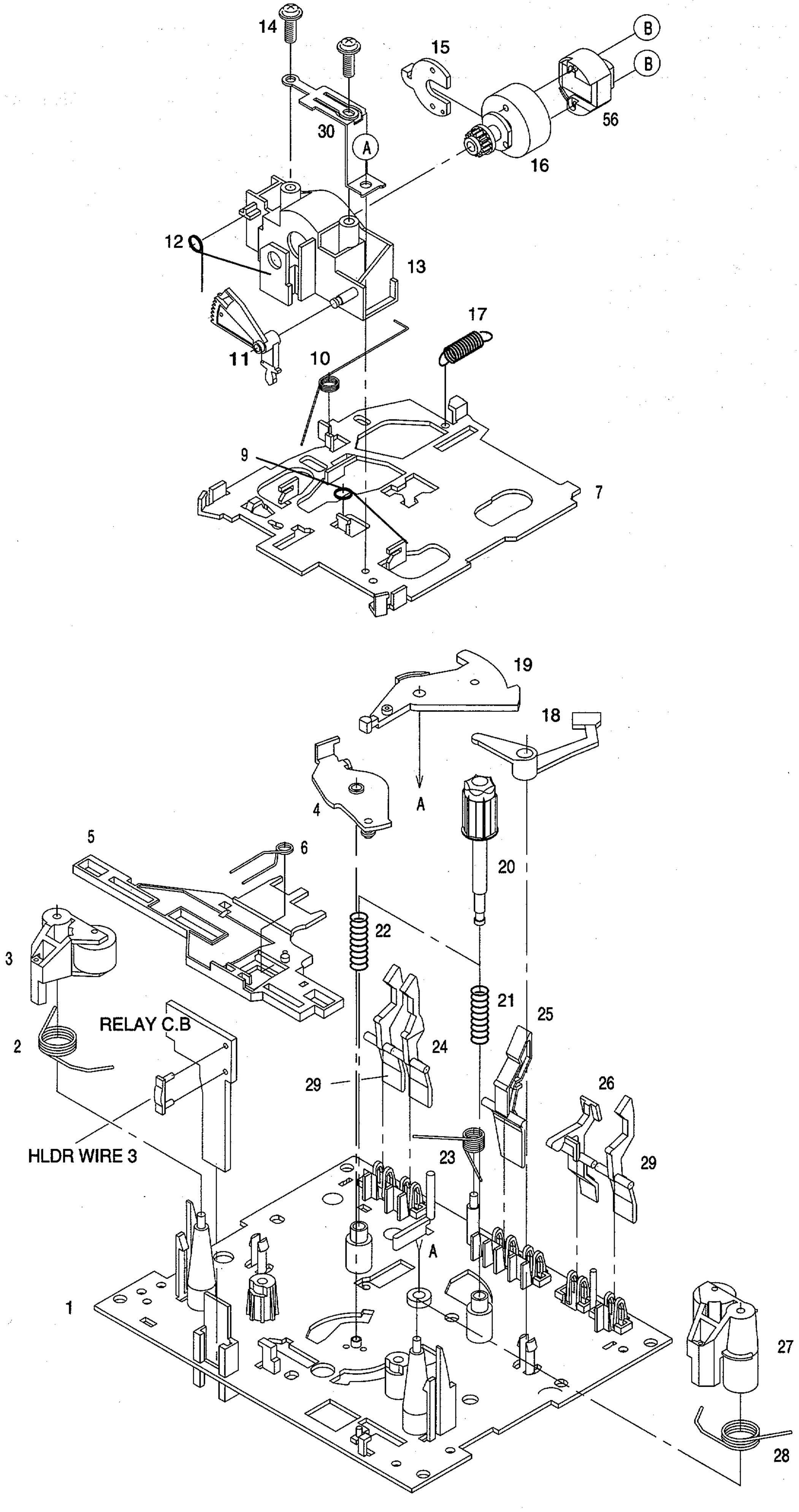
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
30	88-CE2-042-010		PANEL,REAR EZ<EZ>
30	88-CE2-043-010		PANEL,REAR LH<LH>
31	88-CE2-008-010		PANEL,CD
32	88-CE2-006-010		BOX,CASS
33	88-CE2-009-010		WINDOW,CASS
34	88-CE2-208-010		SPR-T,CASS
35	88-CE2-002-010		CABI,TOP
36	88-CD5-203-010		HLDR,LOCK 2N
37	88-CD5-213-010		SPR-C,LOCK
38	82-NF5-229-010		PLATE,LOCK
39	87-063-165-010		OIL-DMPR 150
40	81-669-025-010		FOOT, H11
41	87-085-185-010		BUSHING, AC CORD (E)
⚠ 42	87-050-079-010		AC-CORD ASSY,E
43	88-CE2-005-010		PANEL,SIDE R
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-067-584-010		TAPPING SCREW, BVT2+3-6
C	87-591-094-010		QIT+3-6 GOLD
D	87-067-761-010		TAPPING SCREW, BVT2+3-10
E	87-067-585-010		TAPPING SCREW, BVTT+4-6
F	87-067-421-010		VTT+2-4
G	87-067-981-010		BVT2+3-6 BLK
H	87-744-095-410		UT2+3-8CR
I	87-B10-071-010		BVT2+3-16 W/O SLOT B

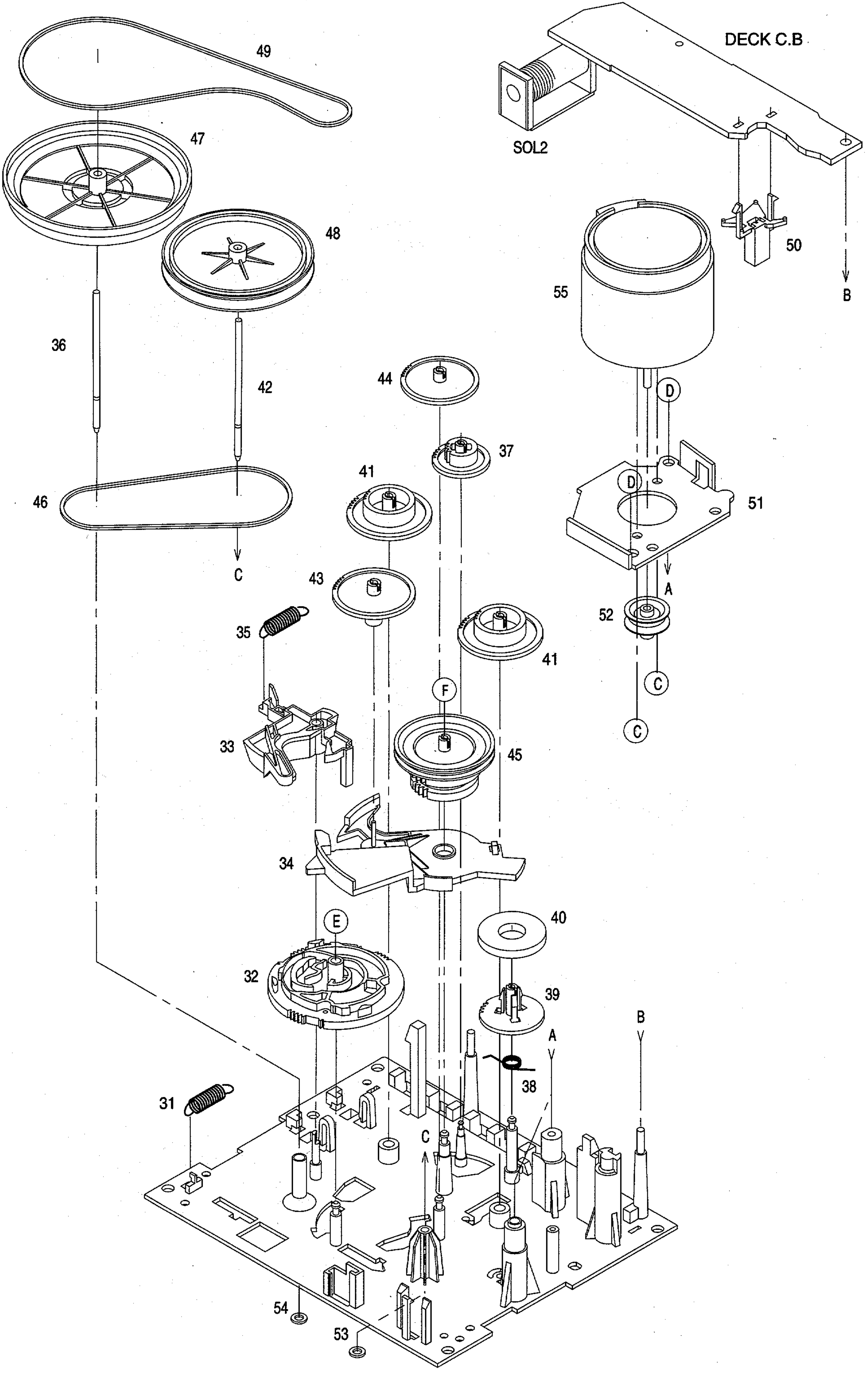
TAPE MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

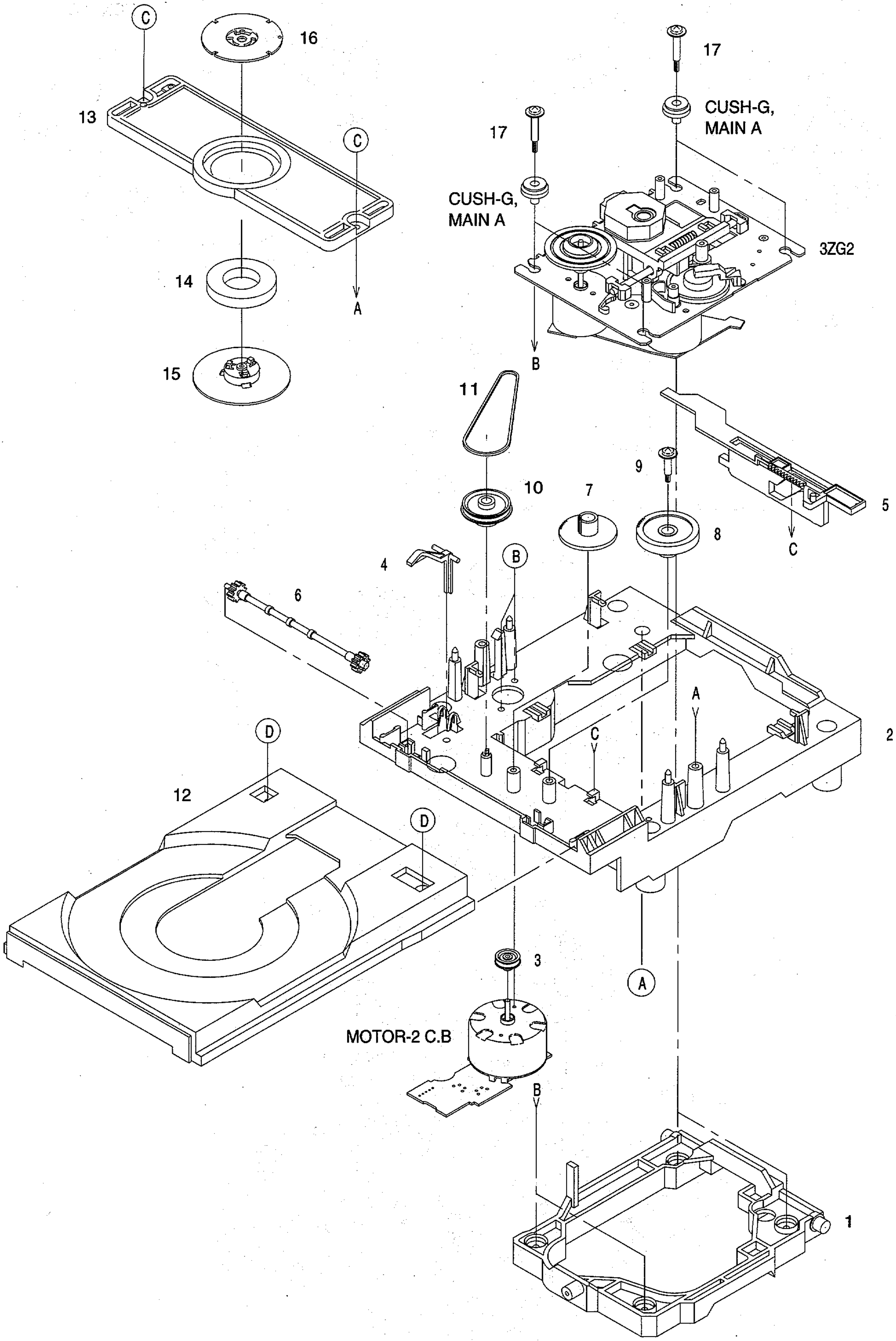
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-327-210		CHAS ASSY,RN
2	82-ZM1-258-010		SPR-T,PINCH L
3	82-ZM1-341-010		LVR ASSY,PINCH L 2
4	82-ZM1-295-310		PLATE ASSY,LINK
5	82-ZM1-266-110		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-810		CHAS,HEAD
9	82-ZM1-269-210		SPR-T,BRG
10	82-ZM3-323-010		SPR-T,LINK 3
11	82-ZM1-210-110		GEAR,H T
12	82-ZM1-213-010		SPR-T,HEAD
13	82-ZM1-207-610		GUIDE,TAPE
14	82-ZM1-283-310		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-110		HLDR,HEAD
17	82-ZM1-218-010		SPR-E,HB
18	82-ZM1-264-010		LVR,EJECT R
19	82-ZM1-222-210		LVR,PLAY
20	82-ZM1-217-310		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-010		SPR-T,CAS
24	82-ZM1-241-310		LVR,MC
25	82-ZM1-242-010		LVR,CAS
26	82-ZM1-243-010		LVR,STOP
27	82-ZM1-344-010		LVR ASSY,PINCH R
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-110		LVR,REC
30	82-ZM1-298-010		SPR-P,EARTH
31	82-ZM1-255-310		SPR-E,LVR DIR
32	82-ZM1-221-110		GEAR,CAM
33	82-ZM1-227-210		LVR,TRIG
34	82-ZM1-224-410		LVR,FR
35	82-ZM1-305-110		SPR-E,TRIG 2
36	82-ZM1-239-010		CAPSTAN 2.2-41.7
37	82-ZM1-223-010		GEAR,PLAY
38	82-ZM1-322-010		SPR-T,FR 60
39	82-ZM1-220-210		GEAR,IDLER
40	82-ZM1-316-010		RING MAGNET 3
41	82-ZM1-216-310		GEAR,REEL
42	82-ZM1-236-010		CAPSTAN,2-41.5
43	82-ZM1-225-010		GEAR,FR
44	82-ZM1-226-010		GEAR,REW
45	82-ZM3-333-210		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT,FR 4
47	82-ZM1-349-010		FLY-WHL,RH
48	82-ZM1-348-010		FLY-WHL,LW
49	82-ZM1-340-010		BEKT,SBU MAIN 2
50	82-ZM1-245-210		HLDR,IC
51	82-ZM1-246-010		HLDR,MOTOR
52	82-ZM1-247-110		PULLEY,MOTOR
53	82-ZM1-288-010		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-010		SH,1.75-3.6-0.5 SLT
55	87-045-347-010		MOT,SHU 2L 70(M1)
56	87-046-399-010		HEAD,RPH YK56R-BS409(RPH)
A	82-ZM1-315-010		S-SCREW,GUIDE TAPE
B	80-ZM6-207-010		V+1.6-7
C	87-251-070-410		U+2.6-3
D	87-741-073-410		UT2+2.6-6 GLD
E	87-B10-008-010		PW,2.15-6.8-0.4 SLT
F	82-ZM3-334-010		PW,2.16-6-0.4

TAPE MECHANISM EXPLODED VIEW 1/1


14
15
B
B
30
A
56
16
12
13
17
11
10
9
7
19
18
4
A
5
6
20
22
3
RELAY C.B
21
25
2
24
29
26
HLDR WIRE 3
23
29
A
1
27
28


DECK C.B
SOL2
C
B
D
D
A
C
C
F
E
B
A
C

CD MECHANISM EXPLODED VIEW 1/2

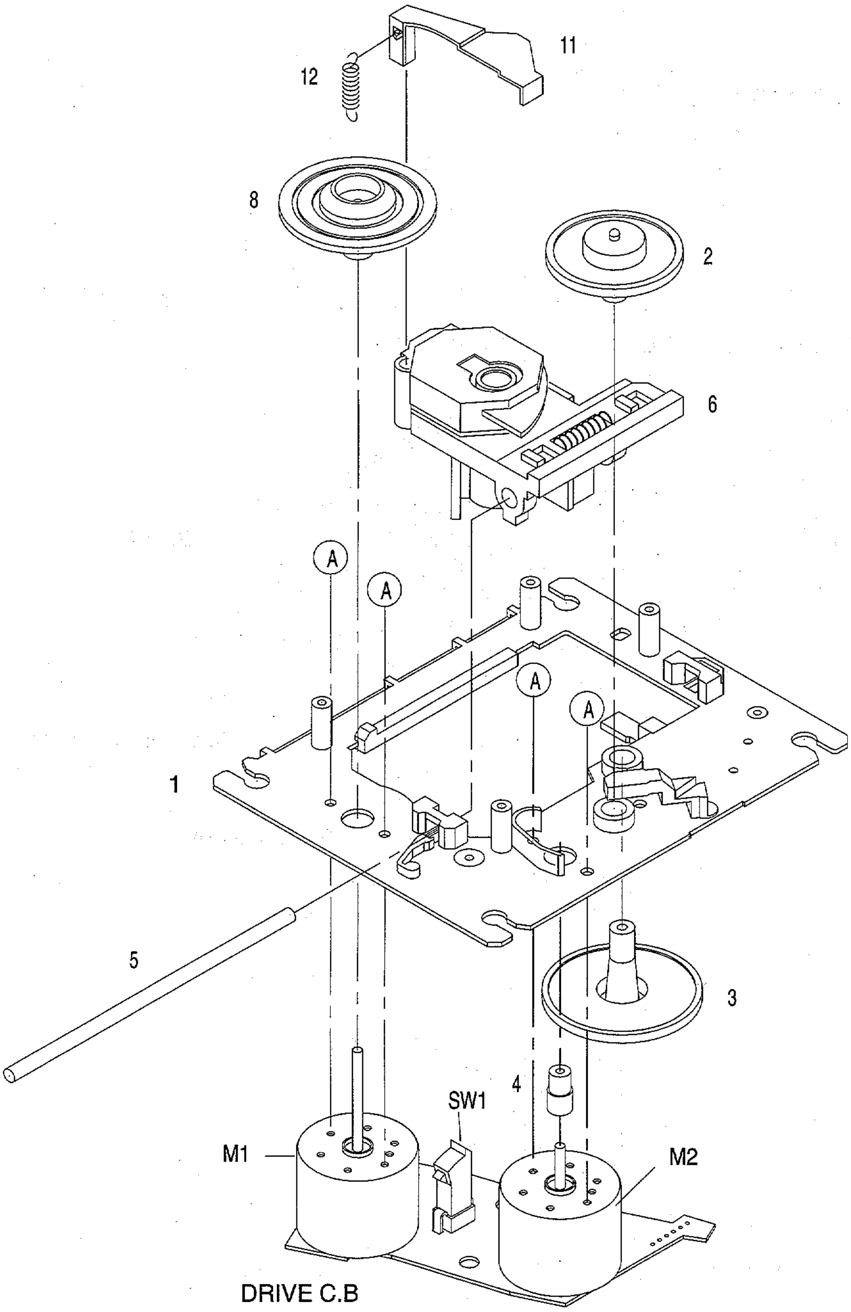

C
16
17
13
C
CUSH-G,
MAIN A
17
CUSH-G,
MAIN A
3ZG2
14
A
15
B
11
9
10
7
5
8
C
4
B
6
A
2
D
C
12
D
3
A
MOTOR-2 C.B
B
1

CD MECHANISM PARTS LIST 1/2

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-310		HLDR,M2
2	83-ZG3-228-610		CHAS,L6
3	83-ZG3-208-010		PULLEY,MOTOR
4	83-ZG3-213-010		LVR,SW
5	83-ZG3-209-610		CAM,SLIDE
6	83-ZG3-207-010		GEAR,TRAY
7	83-ZG3-204-210		GEAR,C
8	83-ZG3-205-010		GEAR,D
9	83-ZG3-217-010		S-SCREW,GEAR D
10	83-ZG3-220-210		GEAR,PULLEY 2
11	83-ZG3-214-010		BELT,L
12	83-ZG3-229-410		TRAY,CD 2
13	83-ZG3-230-010		HLDR,CHUCK 2
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-010		CAP,DISC
16	83-ZG3-219-010		PLATE,CLAMP
17	81-ZG1-254-010		S-SCEW,MECH HLDR
A	87-067-945-110		VFT2+3-12(F10)
B	87-251-071-110		U+2.6-4
C	87-512-074-210		VFT2+2.6-8
D	87-352-075-210		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2/2

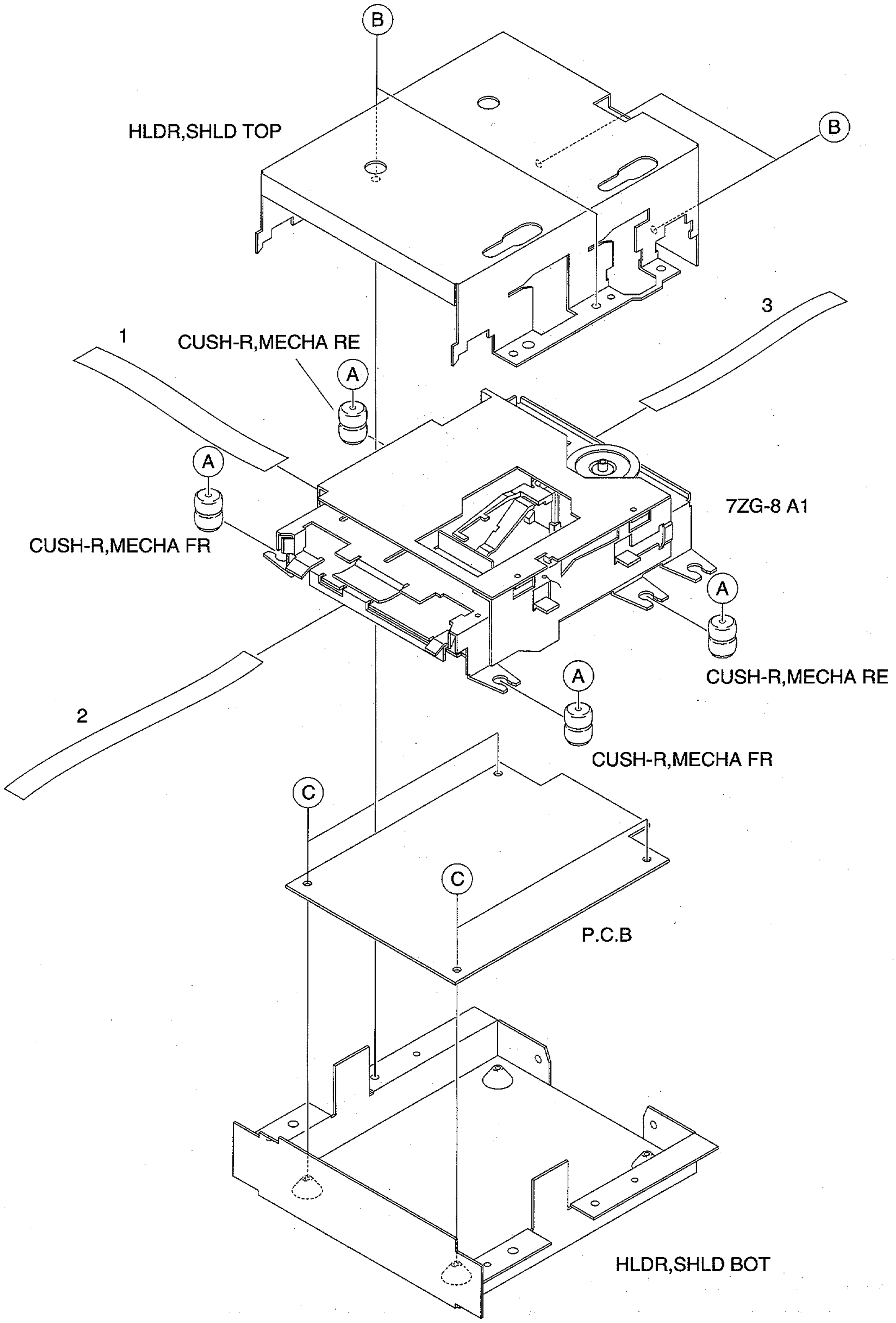


CD MECHANISM PARTS LIST 2/2

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-110		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-240-010		SHAFT,SLIDE 3
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-233-010		TURN TABLE,A5
11	83-ZG2-245-110		LEVER,SHUTTER
12	83-ZG2-250-010		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

MD MECHANISM EXPLODED VIEW 1/3

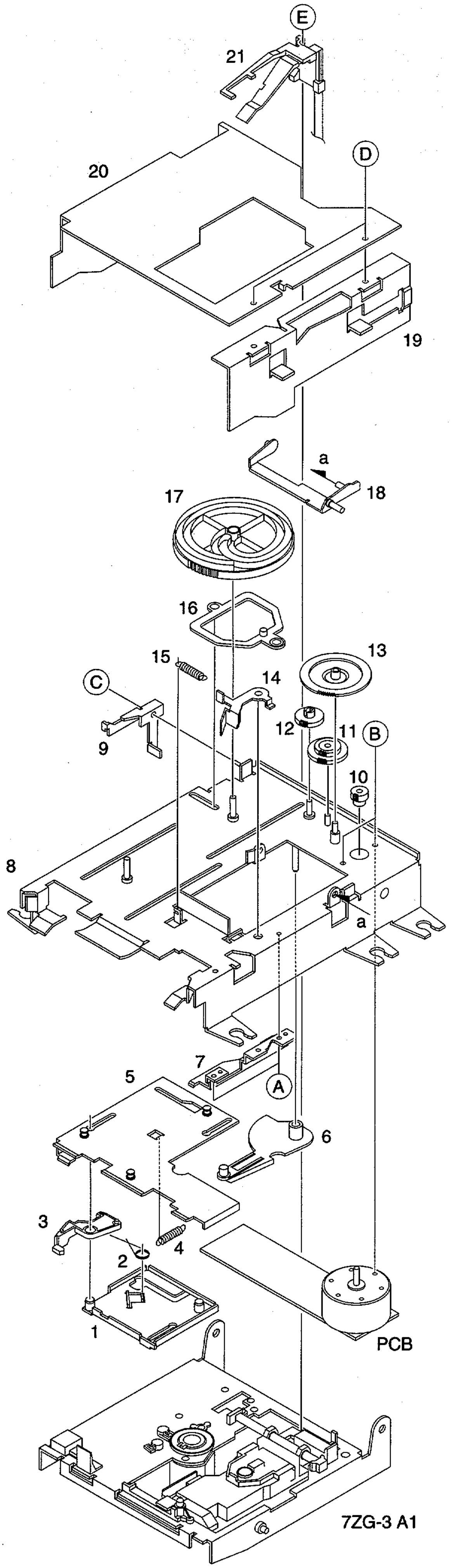

B
HLDR,SHLD TOP
B
3
1
CUSH-R,MECHA RE
A
A
7ZG-8 A1
CUSH-R,MECHA FR
A
A
CUSH-R,MECHA RE
2
CUSH-R,MECHA FR
C
C
P.C.B
HLDR,SHLD BOT

MD MECHANISM PARTS LIST 1/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG9-602-010		FF-CABLE,21P 0.5 90MM
2	87-ZG9-603-010		FF-CABLE,8P 1.0 120MM
3	87-ZG9-604-010		FF-CABLE,5P 1.25 100MM
A	87-ZG9-206-010		S-SCREW,MD
B	87-067-688-010		BVTT+3-6
C	87-067-421-010		VTT+2-4

MD MECHANISM EXPLODED VIEW 2/3

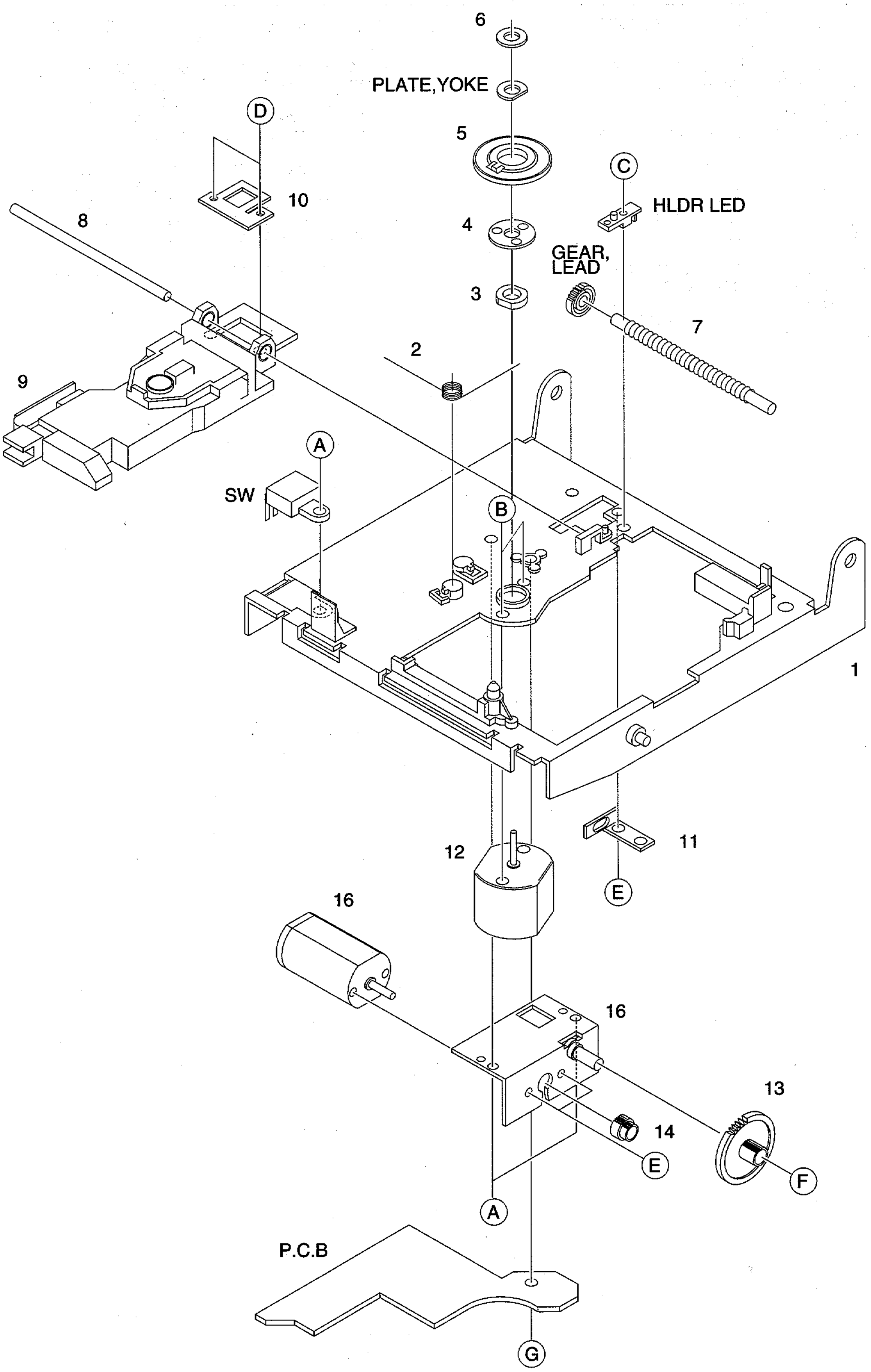

E
21
D
20
19
a
18
17
16
13
15
14
C
12
11
B
9
10
8
a
7
A
5
6
3
4
2
1
PCB
7ZG-3 A1

MD MECHANISM PARTS LIST 2/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG8-220-110		PLATE ASSY,LATCH
2	87-ZG8-259-010		SPR-T,LATCH
3	87-ZG8-230-110		LEVER,LATCH
4	87-ZG8-224-110		SPR-E,LATCH
5	87-ZG8-214-110		HLDR ASSY,CARTRIGE
6	87-ZG8-233-010		LEVER,SW H
7	87-ZG8-255-110		PLATE,CARTRIGE
8	87-ZG8-201-210		CHAS ASSY,MAIN
9	87-ZG8-256-010		LEVER,SW S2
10	87-ZG8-242-010		GEAR,MOT
11	87-ZG8-253-010		GEAR,REDUCTION S3
12	87-ZG8-246-010		GEAR,IDLER 2
13	87-ZG8-252-010		GEAR,REDUCTION L3
14	87-ZG8-231-010		LEVER,SHUTTER
15	87-ZG8-232-010		SPR-E,SHUTTER
16	87-ZG8-225-110		LEVER ASSY,CAM
17	87-ZG8-239-010		CAM,LOAD
18	87-ZG8-257-110		LEVER ASSY,REC
19	87-ZG8-213-010		PLATE,SLIDE R
20	87-ZG8-209-010		PLATE ASSY,SLIDE L
21	87-A90-605-010		HEAD,OWH RF325-74A
A	87-B10-129-010		VTT+1.7-3.5 W/O MFZN2-C
B	87-B10-128-010		V+1.7-2 W/O MFZN2-C
C	87-B10-130-010		W-P,1.23-3.1-0.25 SLIT
D	87-067-421-010		VTT+2-4
E	87-B10-131-010		VW+1.7-5 W/O MFZN2C

MD MECHANISM EXPLODED VIEW 3/3



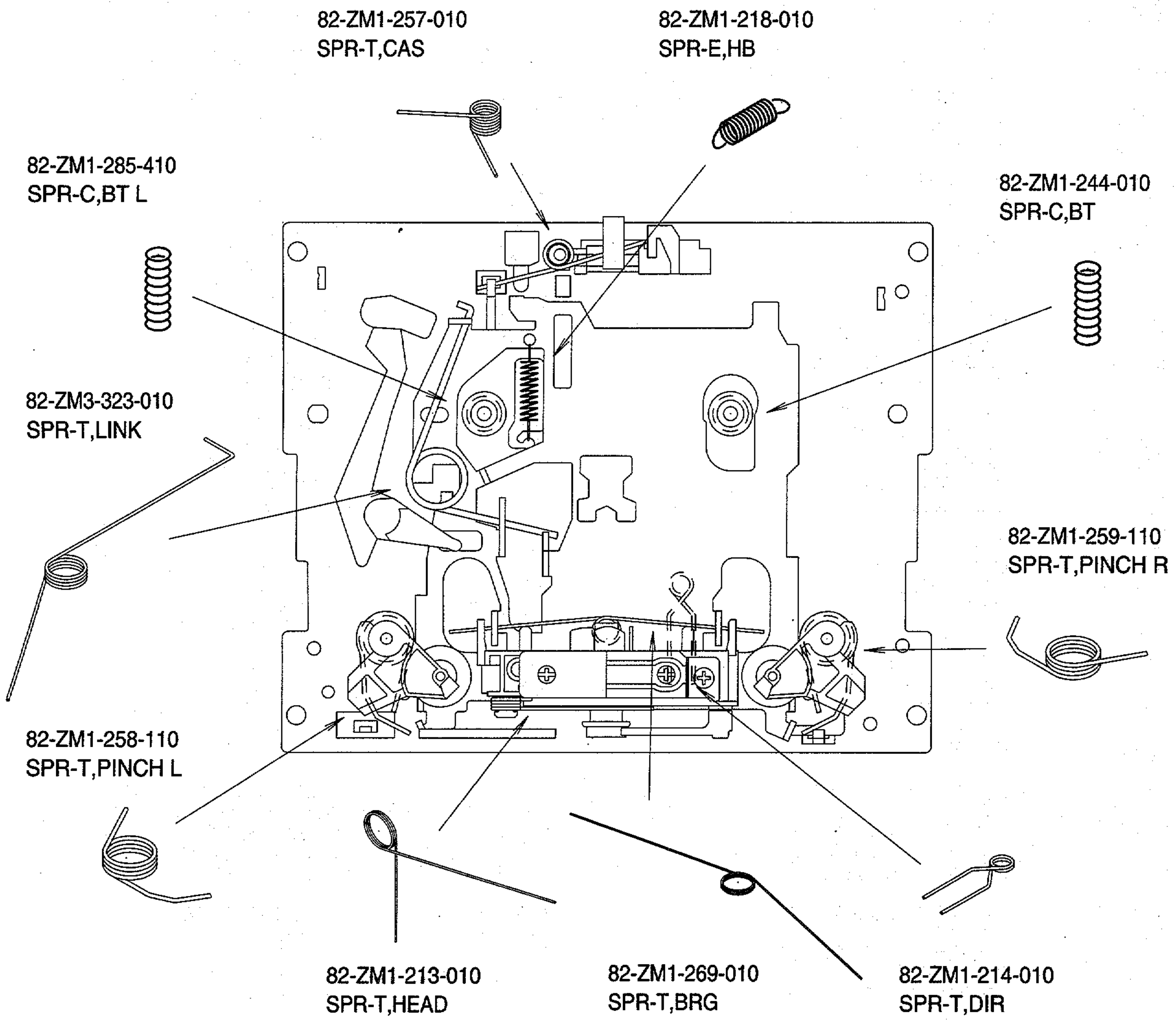
6
PLATE,YOKE
5
D
10
C
HLDR LED
8
4
GEAR, LEAD
3
7
2
9
A
SW
B
1
12
11
E
16
16
13
14
E
F
A
P.C.B
G

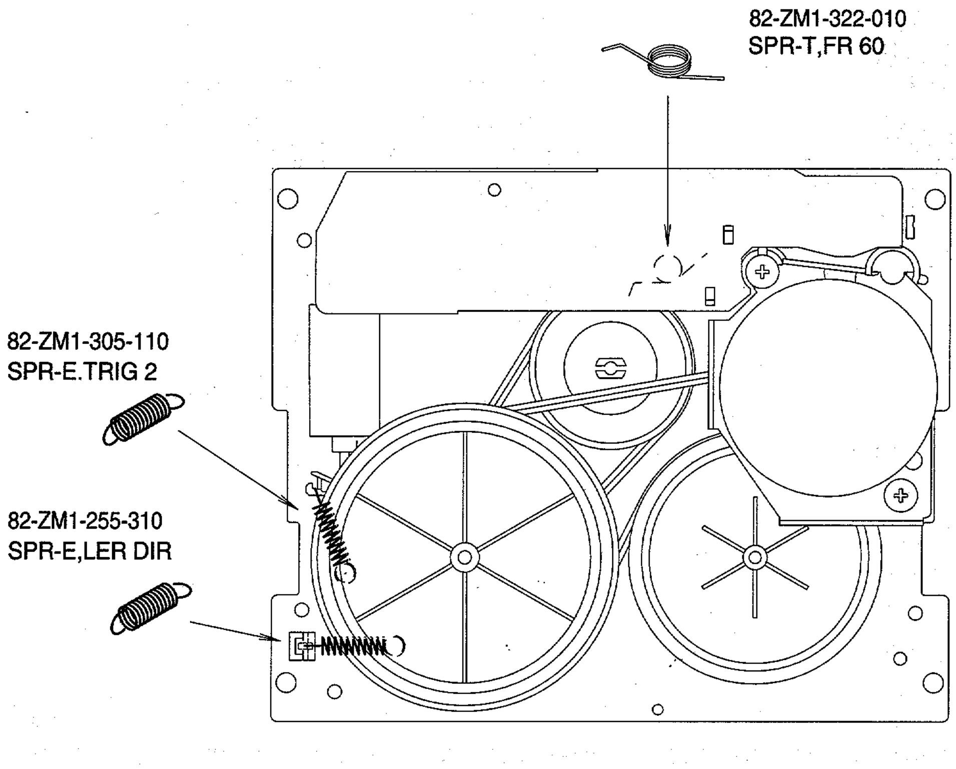
MD MECHANISM PARTS LIST 3/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG3-202-010		CHAS ASSY,OUT-SERT
2	87-ZG3-214-010		SPR-T,SPINDLE-A
3	83-ZG5-308-010		BRG,1.5-2
4	83-ZG5-305-010		SPR-P,DISC
5	83-ZG5-302-010		TURN TABLE,MD1
6	83-ZG5-605-010		MAGNET,CHUCK
7	87-ZG3-212-010		SHAFT,LEAD
8	87-ZG3-211-010		SHAFT,GUIDE
9	87-A90-613-010		PICKUP,KMS-260A
10	87-ZG3-216-010		SPR-P,RACK
11	87-ZG3-213-010		SPR-P,LEAD
12	87-A90-413-010		MOT,FF-110PH 9
13	87-ZG3-206-010		GEAR,A
14	87-ZG3-205-010		GEAR,MOT SL
15	87-ZG3-208-010		HLDR ASSY,MOTOR
16	87-A90-616-010		MOT,FF-N30VA
A	87-261-547-310		V+2-3 BLK (1)
B	87-263-523-310		SCREW, V+1.7-2
C	87-261-509-310		SCREW, V+1.4-4
D	87-067-393-010		SCREW +1.4-1.4
E	87-261-503-310		PRECISION SCREW, V+1.4-2
F	87-078-033-010		PW 1.2-2.5-0.25 SLT
G	87-341-035-210		SCREW,UT1+2-6

SPRING APPLICATION POSITION


82-ZM1-257-010
SPR-T,CAS
82-ZM1-218-010
SPR-E,HB
82-ZM1-285-410
SPR-C,BT L
82-ZM1-244-010
SPR-C,BT
82-ZM3-323-010
SPR-T,LINK
82-ZM1-259-110
SPR-T,PINCH R
82-ZM1-258-110
SPR-T,PINCH L
82-ZM1-213-010
SPR-T,HEAD
82-ZM1-269-010
SPR-T,BRG
82-ZM1-214-010
SPR-T,DIR


82-ZM1-322-010
SPR-T,FR 60
82-ZM1-305-110
SPR-E.TRIG 2
82-ZM1-255-310
SPR-E,LER DIR

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

アイワ株式会社
AIWA CO.,LTD.

727105

Tokyo Japan

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